A CORRELATIVE STUDY OF EEG POSITIVITY AMONG CHILDREN WITH FEBRILE SEIZURES AT PEDIATRIC WARD, GOVERNMENT RAJAJI HOSPITAL, MADURAI

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In partial fulfilment of the requirement for the degree of

MASTER OF SCIENCE IN NURSING

OCTOBER 2018

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CERTIFICATE

This is to certify that this dissertation titled **"A CORRELATIVE STUDY OF EEG POSITIVITY AMONG CHILDREN WITH FEBRILE SEIZURES AT PEDIATRIC WARD, GOVERNMENT RAJAJI HOSPITAL, MADURAI"** is a bonafide work done by **Mrs.C.NAGAJOTHI,** M.Sc (N) Student, College of Nursing, Madurai Medical College, Madurai - 20, submitted to THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI in partial fulfilment of the university rules and regulations towards the award of the degree of **MASTER OF SCIENCE IN NURSING, Branch II, Child Health Nursing,** under our guidance and supervision during the academic period from 2016-2018.

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"Acknowledge him in all your ways and he shall direct your paths"

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ABSTRACT

Title: Correlative study of EEG positivity among children with febrile seizures at pediatric ward, Government Rajaji Hospital, Madurai. **Objectives:** To assess the EEG positivity among children with febrile seizures at paediatric ward. To correlate the EEG positivity and febrile seizures among children with febrile seizures at paediatric ward. To associate the EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai and their socio demographic variables and baseline variables. **Hypotheses: H_1-** There is a statistically significant correlation between EEG positivity and febrile seizures among children with febrile seizures at paediatric ward. **H_2** - There is a significant association between EEG positivity among children with febrile seizures at paediatric ward and their socio demographic variables and baseline variables. **Methodology:** Non experimental descriptive research design was used and to select 100 subjects by Non-probability (consecutive) sampling. **Results:** There is a positive correlation between EEG positivity and febrile seizures, with younger children (t=1.99, p=0.05, r=0.32), more number of times take treatment for previous illness (t = 5.37, r=0.47) and more number of times suffered with respiratory infection (t=5.37, r=0.44) and also had febrile seizures frequently (t=4.26, r=0.35) with high temperature (t=4.19, r=0.49) and had more duration of time with febrile seizures (r=8.76, p=0.001, r=0.55). **Conclusion:** The study findings evidence that there is a statistically significant correlation between EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai.

Key words: EEG Positivity, Febrile Seizures

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Introduction

CHAPTER I

INTRODUCTION

‘’Children are the world’s most valuable resource and its best hope for future’’

J F Kennedy

A child is precious not only to the parents, family, community, and nation but also to the world at large. In fact child is a citizen of world and thus it becomes the responsibility of the wide population of the whole universe to look after the interest of children all over. Children are the assets of our country. Children are future citizens of our country. Only healthy citizens can lead the country in a successful manner to achieve the nation’s progress.

Children go through distinct periods of development as they move from infants to young adults. During each of these stages, multiple changes in the development of the brain are taking place. What occurs and approximately when these developments take place are genetically determined. However, environmental circumstances and exchanges with key individuals within that environment have a significant influence on how each child benefits from each developmental event.

World Health Organization (WHO), (2014) has estimated that more than 10 million children under five of age die each year in developing countries and seven in ten of these deaths are due to acute respiratory infection, mostly pneumonia, diarrhoea, measles, malaria, or malnutrition, or combination of all these. It is further speculated that the deaths from these diseases will be more if there is no intervention.Almost all of these diseases are signalled by rise in temperature of the

children which is called fever and, if the fever is not managed on time, it triggers a condition known as ‘febrile seizures’ or ‘febrile convulsion’.

The main primary symptom in any infection is fever. If any disease is occurring the first and foremost symptom is increasing the temperature. Fever is a common manifestation of most of the infections and until other definitive causes are ruled out. These pyrogenes are released when phagocytic cells (macrophages) are stimulated by micro-organism and endotoxins. A low grade fever is a temperature that is slightly elevated that is 37.1^0c to 38.2^0c (or) 98.8^0F to 100.6^0F elevation 38.2^0C to 40.5^0C (100.6^0F to 104.9^0F) is considered as high grade fever, and a temperature greater than 40.5^0C (or) 104.9^0F is referred as hyper pyrexia. Young children tend to get often high grade pyrexia to hyper pyrexia. Older children are often prone to develop slight elevation of temperature, which is called low grade fever. Most of the mothers do not know that the fever can lead to convulsion or epilepsy.

A febrile seizure, also known as a fever fit or febrile convulsion, is seizures associated with a high body temperature but without any serious underlying health issue. They most commonly occur in children between the ages of 6 months and 5 years. Most seizures are less than five minutes in duration and the child is completely back to normal within sixty minutes of the event. This is a global phenomenon and people live with it all over the world.

There are different types of seizures: febrile, neonatal, partial and generalized. A simple febrile convulsion is defined as a single general seizure incident lasting less than 15 min, in the course of a 24-h period. A complex febrile convulsion is a focused seizure incident lasting more than 15 min and/or occurring more than once in a 24-h period. Neonatal seizures are abnormal electrical discharges in the Central Nervous

System of neonates and usually manifest as stereotyped muscular activity or autonomic changes.

There are several risk factors in the development of repeated febrile seizures, the first incident occurs at an age of less than a year and is complex in the first incident. Among the common situations which have been diagnosed as causes of childhood febrile seizure are upper respiratory tract infection; middle-ear infection; digestive tract infection and urinary tract infection.

Most children who have a febrile seizure have normal health and development after the event, but there is recent evidence that suggests a small subset of children that present with seizures and fever may have recurrent seizures or develop epilepsy. This review will give an overview of the definition of febrile seizures, epidemiology, evaluation, treatment, outcomes and recent research.

In many cases, the family history is positive for febrile convulsions. Febrile seizures is, if untreated, have a high rate of recurrence, especially in the first year or two after onset. Over 50%of infants with febrile convulsions have 2 to 4 episodes, and 20% experience more than for febrile convulsions. A febrile seizure is the effect of a sudden rise in temperature (>39°C/102°F) rather than a fever that has been present for a prolonged length of time. Parents caring for children that may be febrile who wrap them up in warm blankets in an attempt to give comfort unknowingly increase their fever and therefore the risk.

Febrile seizures occur due to a hypersensitive hypothalamus in the brain. The hypothalamus is responsible for homeostatic core temperature regulation, (amongst other factors) and in younger children it is still a developing portion of the brain, meaning it is susceptible to hypersensitive reactions to slight raises in body temperature.

Convulsions persist for just a minute or two; some can last for longer than 15 minutes or as short as a few seconds. During simple febrile seizures, the body will become stiff and the arms and legs will begin twitching. The patient loses consciousness, although their eyes remain open. Breathing can be irregular. They may become incontinent (wet or soil themselves); they may also vomit or have increased secretions (foam at the mouth). The seizure normally lasts for less than five minutes.

An Electroencephalogram (EEG) is a non-invasive test that records electrical patterns of brain. The test is used to diagnose conditions such as seizures, epilepsy, head injuries, dizziness, headaches, brain tumours and sleeping problems. It can also be used to confirm brain death. It is a measure of brain waves. It is a readily available test that provides evidence of how the brain functions over time. The Electroencephalogram is used in the evaluation of brain disorders. Most commonly it is used to show the type and location of the activity in the brain during a seizure. Electroencephalogram positive result indicates an abnormal electrical activity in the brain can cause seizures. When a person has repeated seizures, this condition is called epilepsy. Every Mother must have an awareness to control the rise of temperature without looking into the pathological cause of fever, controlling the pathological cause becomes secondary which should be controlled by administering prescribed antibiotics to the children. But the primary concept is to reduce the fever and prevent the occurrence of febrile convulsions, thereby the complications of hyper pyrexia could be prevented and early recovery could be made possible.

1.1 Need for the study

Children are the future of our society and special gift to the world. Mother's knowledge on care of children greatly influences the health status of child by reducing the mortality and morbidity rate. However supervision of

health of the children is important. Now the children's care is more children centred.

Fever is one of the most common symptoms reported to Pediatrician. A temperature of more than 100 degree Fahrenheit is considered as fever. Fever of more than 101degree Fahrenheit should be actively controlled. It is identified, every year globally 150/1000 children died with a history of febrile seizures.

The average prevalence of febrile seizure in children younger than 5 years based on hospital visit rates in Korea was 6.92% (7.67% for boys and 6.12% for girls). The prevalence peaked in the second to third years of life, at 27.51%. The incidence of febrile seizure in children younger than 5 years (mean 4.5 years) was 5.49% (5.89% for boys and 5.06% for girls). The risk of first febrile seizure was highest in the second year of life. The overall recurrence rate was 13.04% (13.81% for boys and 12.09% for girls), and a third episode of febrile seizures occurred in 3.35%.

Febrile seizures that occurs in early childhood and it causes lot of worries to the parents and care givers. It accounts almost 50% of the convulsive disorders, According to Shinner et al (2001) the World statistics, 50/100,000 children developed convulsions every year. In this 4% of convulsions occurs in first 6 months of life, 90% of the children develop convulsions between 6 months and 3 years of age. According to Shinner et al (2001) children with febrile status epilepticus are more likely to have had neonatal seizures and to have pre-existing neurological abnormalities.

As per year (2007) Population studies in Western Europe and the USA report a cumulative incidence of 2–5%. The incidence elsewhere in the world varies between 5–10% (India), 8.8% (Japan), and 14% (Guam). Data from developing countries are

limited, possibly because it may be very difficult to differentiate simple febrile seizures from acute symptomatic (infective) seizures. Between 9% and 35% of all first febrile seizure are complex, and it may be important to establish this at presentation because children with prolonged or multiple febrile seizure are at increased risk of developing unprovoked seizures. The wide variation in the proportion of the initial febrile seizure being complex (9–35%), may reflect the difficulties in differentiating simple from complex febrile seizures, and perhaps even differentiating FS from afebrile seizures. Finally, although complex febrile seizure represent a small fraction of all febrile seizures, febrile status epilepticus (that is, a complex febrile seizures) accounts for 25% of all episodes of status epilepticus in children.

The incidence of febrile seizures varies considerably in different populations across the world. In Japan, 6-9% of children experience febrile seizures compared to 2-5% in children of European descent 3, 49, and genetic studies in East Asian or other populations might reveal different febrile seizures loci. Further studies are also required to identify the functionally relevant variants at each locus and examine their effects in thoroughly characterized febrile seizure samples across the entire phenotypic spectrum; from isolated febrile seizures (simple or complex) to febrile seizures occurring in specific epilepsy syndromes, such as Genetic epilepsy with febrile seizures plus (GEFS+)or Down syndrome.

Similar to the incidence, different febrile seizures prevalence rates have been reported. Generally the prevalence of febrile seizure is lower in western countries (1.7% in the United States, 3.9% in Holland) than eastern world (9.3% in Japan). Similar to these varying prevalence rates reported from world, the results of previously performed researches in Turkey also range between 4% and 12.4%.

In United States between 2% and 5% of children have febrile seizures by their fifth birthday. A similar rate of febrile seizures is found in Western Europe. The incidence elsewhere in the world varies between 5% and 10% for India, 8.8% for Japan, 14% for Guam, 0.35% for Hong Kong, and 0.5-1.5% for China. Variation in prevalence relates to differences in case definitions, ascertainment methods, geographical variation, and cultural factors. Males have a slightly (but definite) higher incidence of febrile seizures.

As per 2011 census of India, it is stated that India has a population of 1,210,193,422 (1.21billion) people, among that 158,789,287 is the under five population and 66/1000 is under five mortality rate.

A population-based study of 14.010 Parsi children in Mumbai, India, found that 17.7/1,000 children at risk had experienced febrile seizures — but information was gathered historically for children as old as 14-years of age, which might have resulted in significant undercounting

In India, the overall prevalence of epilepsy is reported to be 5.59/1000 population. There are very few incidence studies from India, and the most recent one suggests an age-standardized incidence rate of 27.3/100,000 per year.

There are about 20 epidemiological studies on epilepsy from different parts of India. They include both rural and urban studies. The prevalence rate stands at around 5/1000 population (at this rate present estimate of total epileptics in this country is about 5 million) and incidence rate varies from 38 to 49.3 per 100,000 population per year from two community-based studies in India.

As per 2016 in Tamilnadu, the overall prevalence of febrile seizures is reported to be 35 (3.6%),Delhi 28 (2.9%).

In Madurai, Government Rajaji Hospital, in the year 2017 reported febrile seizures are the most common form of childhood seizures. There is no paediatric casualty without a case febrile seizures.2-5% of the children experience febrile seizures, 65- 90% are simple febrile seizure, commonly seen in male children. The susceptible age group is 6 months – 5 years. High in Asian population, often reccurs within 24 hours. As per Paediatric Neurology articles, every episode of seizure causes neuronal affection, the reason for which it has to be controlled.

The general incidence of febrile seizures among children at Medical College Hospital in a city was 37.2/1000. Among that 32% of the children were female. Majority of the febrile convulsions occurred between the age group of 6 months to 5 years which constitutes 75% of cases, 40% of the cases were found within 1 year of age and 36% cases found between 1-2 years of age, seizures occur within 24 hours in 88% of the cases. At the onset of febrile convulsions, 77% of the cases had moderate degree of temperature and 33% had high temperature. The study recommended that the febrile convulsions could be prevented by providing parental education regarding the therapy during a febrile episode (or) convulsions.

EEGs of patients with FS are important predictive risk factors for the development of epilepsy because the febrile illness lowers the seizure threshold, and patients with FS presenting with frontal paroxysmal EEG abnormalities may be at higher risk. Performing EEG within 24 hours of presentation can show generalized background slowing, which could make identifying possible epileptiform abnormalities difficult. Generalized slowing on EEG can be present up to 7 days after a child presents with febrile status epilepticus. The reported incidence of EEG abnormalities in children with febrile seizures varies from 2% to 86%. This wide range may be due to variable ages of the patients, variable criteria for selection of

cases, differences in the definition of abnormalities, and variations in the time of EEG recording after seizures

Simple febrile seizure has an age range classically described as 6 to 60 months. The peak incidence is usually in the second year of life. Febrile seizures are prevalent in up to 5% of children, with the overall incidence estimated to be 460/100,000 in the age group of 0–4 years. Most febrile seizures are simple; however, up to 30% might have some complex features. The risk of recurrence of febrile seizure is related to various factors, including younger age group, prolonged seizures duration, degree of fever, and positive personal and family history of Febrile Seizure. In fact, a positive family history of febrile seizures in first-degree relatives is observed in up to 40% of patients. Gender distribution has been studied in the literature. One previous study found a mild male predominance, but this has not been supported by other literature reviews. Seasonal variation with regard to seizure incidence has not yet been fully understood. Studies have shown that febrile seizures tend to occur more in the winter months and are more common in the evening. The underlying pathophysiological explanations for these observations remain obscure.

Since the incidence of febrile seizures among children was higher. So the researcher would like to do research on this topic.

1.2 Statement of the problem

A correlative study of EEG positivity among children with febrile seizures at paediatric ward, Government Rajaji Hospital, Madurai – 20.

1.3 Objectives of the study

1. To assess the EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai.

2. To correlate the EEG positivity and febrile seizures among children with febrile seizures at paediatric ward, GRH, Madurai.
3. To associate the EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai and their selected socio demographic variables and base line variables.

1.4 Hypotheses

1. **H_1** - There is a statistically significant correlation between EEG positivity and febrile seizures among children with febrile seizures at paediatric ward, GRH, Madurai.
2. **H_2** - There is a significant association between EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai and their selected socio demographic variables and base line variables.

1.5 Operational definition

- **Correlation:** In this study it refers to correlation between EEG positivity and febrile seizures children.
- **Electroencephalogram**: In this study it refers to tiny electrical signals that come from the brain cells and nerves which send message to each other and it is detected and recorded by the EEG machine.
- **Positivity:** In this study it refers to show abnormal patterns of electrical activity of the Brain.
- **Children with febrile seizures:** In this study, it refers to the children developed seizure associated with a high body temperature between 101^0 F - 105^0 F within the age group of 6 months to 5 years.
- **Pediatric Ward:** In this study it refers to Medical ward and OPD in the Institution of Child Health and Research centre, at Govt Rajaji Hospital,

Madurai, where children are diagnosed and treated for various disease and disorders.

1.6 Assumption

- Children with or without febrile seizures may have negative result (Normal).
- Children may never have seizures and do not have epilepsy, have abnormal patterns of electrical activity in the brain (Abnormal).

1.7 Delimitation

- The duration of the study is limited 4 to 6 weeks.
- The sample size is limited to 100 subjects at Pediatric ward in Govt Rajaji Hospital, Madurai.

1.8 Projected outcome

- The findings of the study will help the healthcare professionals to know the relationship between the febrile seizure and EEG Positivity or negativity among children.

Review of Literature

CHAPTER II

REVIEW OF LITERATURE

This chapter explains in detail about the review of literature and conceptual framework used for the study. A literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, and as such, do not report any new or original experimental work. Also a literature review can be interpreted as a review of an abstract accomplishment.

Literature review serves a number of important functions in research process. It helps the researcher to generate ideas or to focus on a research approach, methodology, meaning tools and even type of statistical analysis that might be productive in pursuing the research problem. Review of literature in the study is organized under the following headings.

The literature was searched from extensive review from various sources and was depicted under the following headings.

2.1 Literature review related to incidence and prevalence of febrile seizures.

2.2 Literature review related to EEG positivity among children with febrile seizures.

2.1 Literature review related to incidence and prevalence of febrile seizures

Mehmet Canpolat, Huseyin Per, Hakan Gumus, Ferhan Elmali, Sefer Kumandas, (2018) conducted study on prevalence and recurrence of febrile convulsion and risk factors for development of epilepsy in school children throughout in the Kayseri provincial center. Ten thousand individuals selected using “stratified cluster

sampling" from a student population of 259,428, fifteen thousand questionnaires were distributed, of which 10,742 (71.6%) were returned. Febrile seizure and the medical records of patients with a history of hospitalization were evaluated. Data were analyzed on IBM SPSS Statistics 22.0 package program. Significance was set at $p < 0.05$. Prevalence of febrile convulsion was 4.2% in girls and 4.3% in boys, with a total prevalence of 4.3%. Recurrence of febrile convulsion was observed in 25.4% of cases. Risk of recurrence increased 7.1 times in subjects with a history of febrile convulsion in first and second degree relatives, 17.8 times in those with fever interval <1 hour before convulsion and 17.6 times in those with pre-convulsion body temperature <39°C. Epilepsy developed in 33 (7.2%) cases. Neurodevelopmental abnormality was the most important risk factor for epilepsy (21.1-fold risk increase).

Jihan Alifa Syahida, Nelly Amalia Risan, Vita Murniati Tarawan, (2017) conducted descriptive community-based survey on Knowledge and Attitude on febrile seizures among mothers with Under-Five children, in Hegarmanah Village, Jatinangor, West Java, Indonesia in October 2013, comprised of 96 mothers through randomization, reported Fifty nine respondents (61%) considered that high fever in their children will result in seizures and 63 mothers (65%) stated that this condition was a life-threatening situation which could lead to brain damage (50%) and paralysis (50%). There were some respondents who would manage seizures by shaking (27%) or holding the child tightly during seizures (22%) and putting spoon into the children mouth (59%). Sixty respondents (62.5%) prevented febrile seizures by giving them coffee, and concluded Knowledge and attitude regarding febrile seizures is good, but the knowledge and attitude towards the outcome and what to do during febrile seizures occasion are still poor.

Dalal Elmagrabi, (2015) conducted randomized controlled trial on treating children with regular anti seizures medications after their first febrile seizure, by Camfield and his group in Canada described the use of Phenobarbital in a population of 102 patients. The patients in this study were assigned to treatment and placebo groups. The study concluded that daily use of Phenobarbital reduced the rate of subsequent febrile seizure from 25 to 50 per 100 subjects per year. Nevertheless, 50% of patients had been noncompliant, and nearly 40% had experienced significant side effects.

Ali Delpisheh, PhD, Yousef Veisani, MSc, Kourosh Sayehmiri, PhD, and Afshin Fayyazi, MD, (2014) meta analysis on childhood convulsions among Iranian children are associated with febrile seizures. Data manipulation and statistical analyses were performed using Stata10.The important viral or bacterial infection causes of febrile seizures were; recent upper respiratory infection 42.3% (95% CI: 37.2%–47.4%), gastroenteritis21.5% (95% CI: 13.6%–29.4%), and otitis media nfections15.2% (95% CI: 9.8%- 20.7%) respectively. The pooled prevalence rate of febrile seizures children among other childhood convulsions was 47.9% (95% CI: 38.8–59.9%), and concluded that the sample size does not significantly affect heterogeneity for the factor 'prevalence febrile seizure'.

Overall.115 studies (1 study in Pub Med, 114 studies in other databases) were identified. Of them, 94 studies were excluded based on the inclusion and exclusion criteria. Finally, 21 articles including one in English (10) and 20in Persian (11-13, 16-32) were adopted. A meta regression analysis was introduced to explore heterogeneity between 4599 children with febrile seizure including 2734 males and 1865 females included in Meta analysis.Prevalence of febrile seizures according to the age of

children under 2 years and 2 to 6 years were 55.8% (95% CI: 50.4–61.2%) and 44.1% (95% CI: 38.8–62/2%), respectively.

Avi Shimony, ZaidAfawi, Tal Asher, Muhammad Mahajnah, Zamir Shorer, (2008) conducted retrospective study onfebrile seizures are associated with different features in Bedouin and Jewish children, 374 children, children aged 3 months to 7 years comprised 261 Jews and 113 Bedouins. Data was taken from admission files and follow-up notes.Febrile convulsions were diagnosed before the age of 2 in 75% and 81.4% of the Jewish and Bedouin children, respectively. Simple seizures was found among 80.4% and 72.2% of the Jewish and Bedouin groups, respectively. Complex seizures was found among 19.6% and 28.8% of the Jewish and Bedouin groups, respectively. 18.4% of the Jews and 17.8% of the Bedouin experienced more than one febrile convulsion. The most common diagnosis between the two groups by the time of the febrile seizures was otitis media however pneumonia was diagnosed in 15% of the Bedouins and only 3.8% of the Jews ($p < 0.005$). Then again 19.1% of the Jewish population was found to suffer from upper respiratory tract infections, as opposed to 9.7% of the Bedouin ($p< 0.05$). The two groups were similar in some aspects (gender, age and type of seizures) nevertheless there were differences concerning the source of fever. Further studies are needed to find whether these differences are related to demographic, genetic or other factors.

Lalitha., (2004) Conducted descriptive survey method of study on "the knowledge, attitude and practice of the mothers regarding care of the children in febrile condition at Vanivilas children's hospital, Bangalore city, 50 mothers of children below the 10 years of age. The study revealed that the mothers (55.56%) actually lacking in terms of knowledge on managing children with fever and one of the most

important finding was that they (64.16%) also beliefs and misconception about fever, on managing the child with fever correctly.

Banerjee KT, *et al.* (2003) cross-sectional observational study on prevalence of active epilepsy, **febrile seizures (FS),** cerebral palsy and tic disorders in age 19 years or less, carried out a as a stage door-to-door survey of a stratified randomly selected population, comprised of 16979 (male 8898, female 8081) of age ≤19 years were surveyed. The prevalence rates per 1000,000 population of active epilepsy, febrile seizures, cerebral palsy, and TD with 95% confidence intervals are 700.87 (580.60-838.68), 1113.14 (960.07-1283.59), 282.70 (CI 208.43-374.82) and 35.34 (12.96-76.92) respectively. Among those with history of **febrile seizures, 9.5%** developed epilepsy later on. The prevalence of **febrile seizures** among slum dwellers is lower than in the non-slum population. Compared to western nations, **higher proportion of febrile seizures** develops epilepsy.

Kuks, et al(2004) Retrospective study of patients with drug resistant epilepsy using high-resolution volumetric MRI, studied 107 patients with of these patients 45 had focal or diffuse hippocampal volume loss and strong association between hippocampal sclerosis and a history of childhood febrile convulsions. The authors pointed out that this association does not prove a causal relationship and that 64% of their patients with hippocampal volume loss gave no history of febrile convulsions, so if childhood febrile convulsions cause some cases of hippocampal sclerosis this cannot be the only mechanism.

Maytal and Shinnar (2004) in the CHES cohort 398 children had febrile convulsions, total of 19 (4.8%) had lengthy febrile convulsions (>30 minutes): in this group there was no evidence of neurological sequelae in those who had been normal before the lengthy attacks, except for one atypical case ofa child who became very

hyperpyrexial after he was put into a hot bath during a convulsion, reported that no child died or developed new neurological deficits following the episodes of status.

2.2 Literature review related to EEG positivity among children with febrile seizures

Abdulhafeez M Khair, et al, (2015) in a retrospective single-center observational study around (400) children were admitted with first nonfebrile seizures to the Pediatric Emergency Centers. EEG was requested for 76 patients. Patient's demographic data and EEG records are then analysed. Infants unexpectedly represented a small proportion of our cohort. Male gender predominance was noticed and concluded no significant correlation could be found in EEG yield in regard to seizure type.

Latika Mohan, Nitu Roy and Yogesh Singh (2015) conducted descriptive study to assess the sensitivity, specificity, and predictive value of EEG, 50 consecutive children with febrile seizures attending the pediatric OPD of a tertiary care hospital, EEG was carried out on two occasions. First EEG was done within one week Paroxysmal EEG abnormalities were present in 54% of children. Validity measures of EEG in febrile seizures were found to have 90% sensitivity, 70% specificity, 72% positive predictive value and 88% negative predictive value within 95% confidence interval, and concluded EEG is useful as a diagnostic and prognostic tool in febrile seizures and can provide information regarding presence of abnormalities, degree of encephalopathy and electrographic features but like all diagnostic tool it is not fully infallible and requires further alternative diagnostic and clinical support.

Parvaneh Karimzadeh, MD, Alireza Rezayi, MD (2014) conducted descriptive study to compare early and late EEG abnormalities in 36 (24 boys and of febrile seizures episode and second EEG was done after 3 months of first EEG, duration of 35 minutes which included 25 minutes of sleep record in all the children,(12

girls) febrile seizures children aged between 3 months and 6 years were admitted to the emergency unit of Mofid Children's Hospital ,EEG was recorded during daytime sleep, 24-48 hours (early EEG) and 2 weeks (late EEG) after the seizure with febrile seizures. Abnormalities of the first EEG were compared with those of second EEG and recorded in the early EEG were slow waves (27.6%) and sharp waves in late EEG (36%) and concluded no significant statistical difference and early and late EEG recording had the same results in patient with febrile seizures.

J. Maytal, R. Steele, L. Eviatar, and G. Novak (2000), conductedretrospective chart review study to assess the usefulness of an early postictal EEG on neurologically normal children hospitalized over a period of 2.5 years after complex febrile seizures, and had an EEG up to 1 week after the seizure ,Thirty-three patients (mean age, 17.8 months) qualified for inclusion into the study, Twenty-four patients were qualified as complex cases based on one factor (prolonged in 9, repetitive in 13, and focal in 2), Nine other patients had two complex factors: in six patients, the seizures were long and repetitive; in two patients, the seizures were focal and repetitive; and in one patient, the seizures were long, focal, and repetitive. Thirteen (39%) patients experienced prior febrile seizures. All 33 patients had a normal postictal sleep EEG. Our results indicate with a 95% probability that the true rate of abnormalities in an early postictal EEG performed on otherwise normal children with complex febrile seizures is 8.6% or less and concluded abnormalities of an early postictal EEG in this population is low and similar to the reported rate of abnormalities in children with simple febrile seizures.

Charuta Joshi, Teresa Wawrykow, Jill Patrick, Asuri Prasad, (2005) Conducted retrospective study on clinical variables (age, timing of the EEG since CFS, family history of seizures, neurological assessment and EEG abnormalities) predict an abnormal EEG in patients with complex febrile seizures among 1175 children, of these 39.43% had EEG abnormalities. Children with a normal EEG were younger than those with an abnormal EEG (mean age 15.72 months versus 19.75 months, $p < 0.05$). Predictive of abnormal EEG in children with complex febrile seizure were; age >3 years ($p = 0.010$; 95% CI: 1.5–18.8), EEGs performed within 7 days ($p = 0.00$; 95% CI: 1.78–7.12) and an abnormal neurological exam ($p = 0.053$; 95% CI: 0.98–16.9). A family history of febrile seizures was more likely to be associated with a normal EEG ($p = 0.01$; 95% CI: 0.04–0.60) and concluded clinical variables at presentation can be used to screen children with complex febrile seizure for whom an EEG is considered. Whether abnormal EEG translates to future recurrences or epilepsy needs a prospective study.

Kim et al. (2005) conducted Cochrane Reviews onElectroencephalography in Children with Febrile Seizures, Department of Pediatrics, College of Medicine, Kyung Hee University, and Seoul, Korea among 183 patients with complex febrile seizures, they found that subsequent epilepsy was developed 50% in patients with focal epileptiform discharges compared to 13% in those without focal epileptiform discharges, with an odds ratio of 5.15 (95% confidence interval, 1.84–14.5),concluded that the presence of epileptiform discharges is significant risk factor for subsequent epilepsy in patients with complex febrile seizures.

2.3 Conceptual frame work

The conceptual framework for research study presents the measure on whichthe purpose of the proposed study is based. The framework provides the perspectivefrom which the investigator views the problem.Conceptual framework refers to interrelated concepts or abstractions that areassembled together in some rational scheme by virtue of their relevance to a common theme **(Polit and Hunger- 1997).**

A conceptual framework on a model is made up of concepts, which are themental images of the phenomenon. It offers framework of preposition for conductingresearch. These concepts are linked together to express the relationship between them.A model is used to denote symbolic representation of the concepts.

This study was based on the concept that correlation of EEG positivity among febrile seizures children. The investigator adopted the Health Belief Model theory (1964) as a base for developing the conceptual framework.

A conceptual framework is a group of concepts and a set of propositions that make scientific findings spell out the relationship between them. The overall purpose is to make scientific findings meaningful and generalisable. Concepts are the mental images of phenomena and they are the building blocks of the theory. Polit and Hungler states that the conceptual framework refers to interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common thing. This is a device that helps to stimulate research and is the extension of knowledge by providing both direction and impetus.

The present study is aimed at assessing the EEG positivity among febrile seizures children at paediatric ward, GRH, Madurai. The conceptual framework selected for the study is based on Health belief Model. Health behaviour is modified through

education as it helps the individual to perceive the thread of unhealthy practices and increased awareness towards evidence of harmful practices.

The model was first developed in the early 1950s by Becker, Drachman RH and kircht TP. Later the model is modified (1974) to include the influence of health motivation.

The model is composed of three components

Step I : Individual perceptions

Step II : Modifying factors

Step III : Likelihood of action.

Step I: Individual perception

Individual perception is the first component of this model which includes

Perceived susceptibility: Family history of febrile seizures and epilepsy, immunization history, past history of febrile seizures, frequency of respiratory infection.

Perceived seriousness: Temperature, duration of seizures, frequency of seizures, EEG positivity.

Step II: Modifying factors

The second component of this model consists of modifying factors such as demographic variables, clinical variables, perceived threat of disease and cues to action.

Socio Demographic variables: Age, gender, birth order of the child, place of domicile, religion, type of family, residency.

Perceived Threat: This includes physical injury, intellectual defect, social stigma, brain damage, death of children.

Cues to action: Information from health care professionals, teachers, relatives, friends, mass media, magazine, net source.

Step III: Likelihood of action

The third component of this model is the likelihood of action. This component includes perceived benefit of preventive action, perceived barriers and likelihood of behavioural change.

Perceived Benefit of Preventive Action: To control of fever in children.

Perceived Barriers: Lack of knowledge among parents regarding fever, failure to seek advice from health provider, work load of parents, negligence of personal hygiene, lack of knowledge on home based therapy.

Likelihood of Behavioural Change: This includes gain knowledge on control of fever in children among parents such as maintain hygiene, tepidsponging, identify the warning signs of febrile seizures, seek advice from health care personnel.

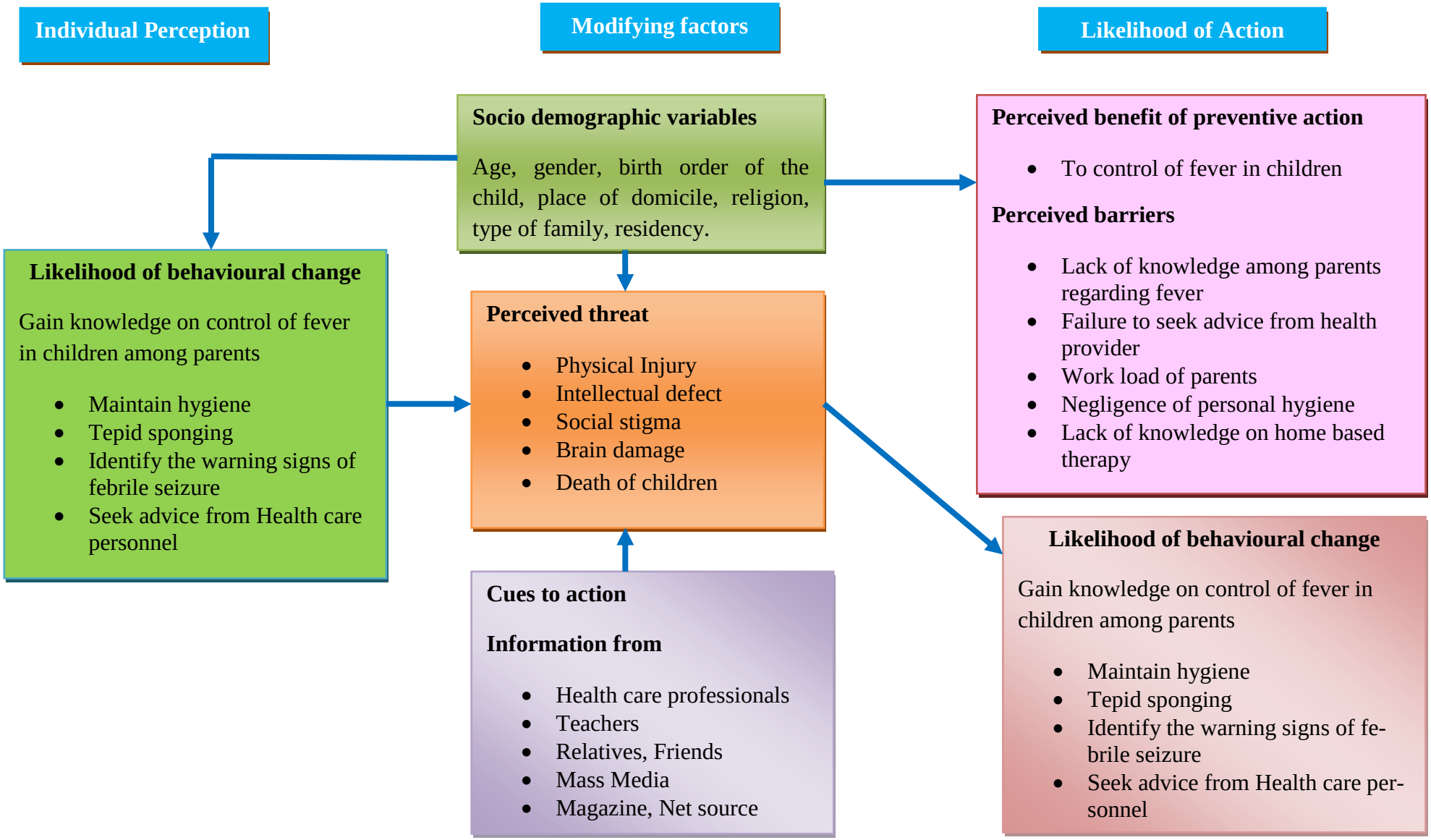


FIGURE: 1 CONCEPTUAL FRAMEWORK BASED ON MODIFIED HEALTH BELIEF MODEL BY BECKER, DRACHMAN RH AND DIRCHT TP (1974)

Research Methodology

CHAPTER III

METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure for assembling valid and reliable data for investigation. This chapter provides a brief explanation of the method adopted by the investigator in this study. It includes the research approach, research design, and variables, setting of the study, population, sample and sample size, sampling technique, description of the tool, pilot study, data collection procedure and plan for data analysis.

The present study aimed to correlate the EEG positivity among children with febrile seizures in pediatric ward at Government Rajaji Hospital, Madurai.

3.1 Research approach

The research approach is the most essential part of any research. The entire study is based on it. A research approach tells the researcher about the collection ofdata that is what to collect, when to collect, how to collect and how to analyze. It alsohelps the researcher with suggestions of possible conclusions to be drawn from thedata.

According to Polit and Hungler (1999) evaluative research is an applied formate research that involves finding out how well a program, practice, procedure orpolicy is working. It involves the collection and analysis of information relating to thefunctioning of a program or procedure. With the aim of assessing itscorrelation.

A quantitative approach was adopted in the present study as the investigationis aimed to correlate the EEG positivity among children with febrile seizures.

3.2 Research design

According to Kothari.C.R.(2003) “A research design is defined as the overallplan for collecting and analyzing data, including a specification for enhancing theinternal and external validity of the study “The research design is the plan, structure and strategy of investigations ofanswering the research question. It is the overall plan or blueprint the researcher selectto carry out the study.

The research design selected for this study is Non experimental – Descriptive research design.

In this study, the investigator used quantitative evaluative approach.

3.3 Variables

The variable is “an attribute of a person or object that varies that is taken different values”

- Polit and Hunger

Research variables

The research variable in the present study was EEG positivity among children with febrile seizures.

Assessment of EEG

Positive

Negative

Socio Demographic Variables

Age,gender, birth order of the child, place of domicile, religion, type of family, residency, income of the family, educational status of the father, educational status of the mother, maternal habits.

Baseline variables

Past history of febrile seizure, treatment for previous illness, suffer any respiratory infection, how often suffered respiratory infection,family history of febrile seizures, family history of epilepsy, febrile seizure after immunization, temperature, type of febrile seizures, duration of febrile seizures, frequency of febrile seizures per day, maintenance of personal hygiene.

3.4 Setting of the study

The setting is the physical location and condition in which data collectiontakes place in the study.

- Polit and Hunger.

The setting was selected based on acquaintance of the investigator with the institution, feasibility of conducting the study, availability of the sample, permission and proximity of the setting for investigation.The study setting selected, for this study is paediatric ward, at Government Rajaji Hospital, Madurai.

3.5 Population

The population is defined as the entire aggregation of cases that meet a designed criterion.

Target population

The target population of this study is children with febrile seizures.

Accessible population

In this study accessible population is children with febrile seizures those who are attended in paediatric ward at Government Rajaji Hospital, Madurai.

3.6 Sample

In the present study the sample consist of the children with febrile seizures attending paediatric ward at GRH, Madurai who fulfilled the inclusion criteria.

3.7 Sample size

The sample size was 100 Children with febrile seizuresregistered in paediatric ward at Government Rajaji Hospital, Madurai.

3.8 Sampling technique

Sampling technique used in the study was non probability-(consecutive) sampling technique.

3.9 Criteria for selection of samples

Study sample was selected by the following inclusion and exclusioncriteria.

Inclusion Criteria:

- Children with febrile seizures attended paediatric ward.
- Children age between 6 months to 5 years.
- Children were available at the time of data collection
- Children both male and female

Exclusion Criteria:

- Seizures disorder with other causes
- Parents/patients are not willing to participate

3.10 Research tool and technique

- The tool used for the study was survey method.
- The technique used for the study was structured interview method.

Description of the instrument

The tool consists of two sections.

Section I: Socio demographic variables.

Section II: Baseline variables.

Section III: Assessment of EEG Positivity

Section I (Socio demographic variables)

It consists of socio demographic data of the clients. The socio demographicvariables include age,gender, birth order of the child, religion, type of family, residency, income of the family per month, educational status of the father, educational status of the mother, maternal habits.

Section II (Baseline variables)

It consists of baseline variables of the clients. Baseline variables such as past history of febrile seizure, treatment for previous illness,suffered respiratory infection, how often suffered respiratory infection, family history of febrile seizures, family history of epilepsy, immunization history, temperature, type of febrile seizures, duration of febrile seizures, frequency of febrile seizures per day, maintenance of personal hygiene.

Scoring procedure

Section- A: There was no score given for socio demographic variables and baseline variables

Section-B: Assessment of EEG positivity among febrile seizures children

3.11 Testing of the tool

Content Validity

"Validity is the degree to which an instrument measures what is intended to measure" (Polit and Hungler. 1995)

The content validity was obtained from three Child Health nursing experts and two professors of Pediatric Medicine department at Institute of Child Health and Research Centre, at Government Rajaji Hospital, Madurai. Minimal modification was made in the section A & Section B of the tool. After the change the tool was finalized. The modified tool was used for data collection and content validity was obtained.

3.12 Pilot study

The pilot study was conducted in Pediatric ward at Government Rajaji Hospital, Madurai from 20.05.2018 to 27.05.2018 to test the feasibility of setting, samples, relevance and practicability of the intervention among 10 children with febrile seizures attended paediatric ward for regular follow up. Informed written and oral consent was obtained from the caregivers of febrile seizures children. Subjects were selected by consecutive sampling technique. The findings of the pilot study revealed that the tool was feasible and practicable.

3.13 Ethical consideration

This study was conducted after the approval from the ethical committee, Madurai Medical College, Madurai – 20. All respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Ensured confidentiality of the study result. Informed oral and written consent was obtained from all participants.

3.14 Data collection procedure

After obtaining written permission from the Principal, College of Nursing, Director, Institute of Child Health and Research centre, Ethical committee on the first day of data collection, the investigator introduced herself and explained the nature and purpose of the study to the caregivers of children with febrile seizures. Subjects 100 were selected based on the inclusion criteria. Written and oral informed consent was obtained from the care givers of the participant and confidentiality of their responses was assured. Session started with introduction of self, establishment of rapport, explanation regarding the purpose and nature of the study. Collection of socio demographic data among febrile seizures children and the EEG positivity were assessed. Approximately per week 25 children with febrile seizures selected by non

probability (consecutive) sampling and assessed through survey method tool .Totally 100 samples were collected till the required sample achieved.

3.15 Plan for data analysis

The data analysis involves the translation of information collected during the course of research project into an interpretable and managerial form. It involve the use of statistical procedures to give an organization and meaning to the data. Descriptive and inferential statistics use for data analysis. To compute the data, a master sheet was prepared by the investigator. The data obtained were analyze using both descriptive and inferential statistics.

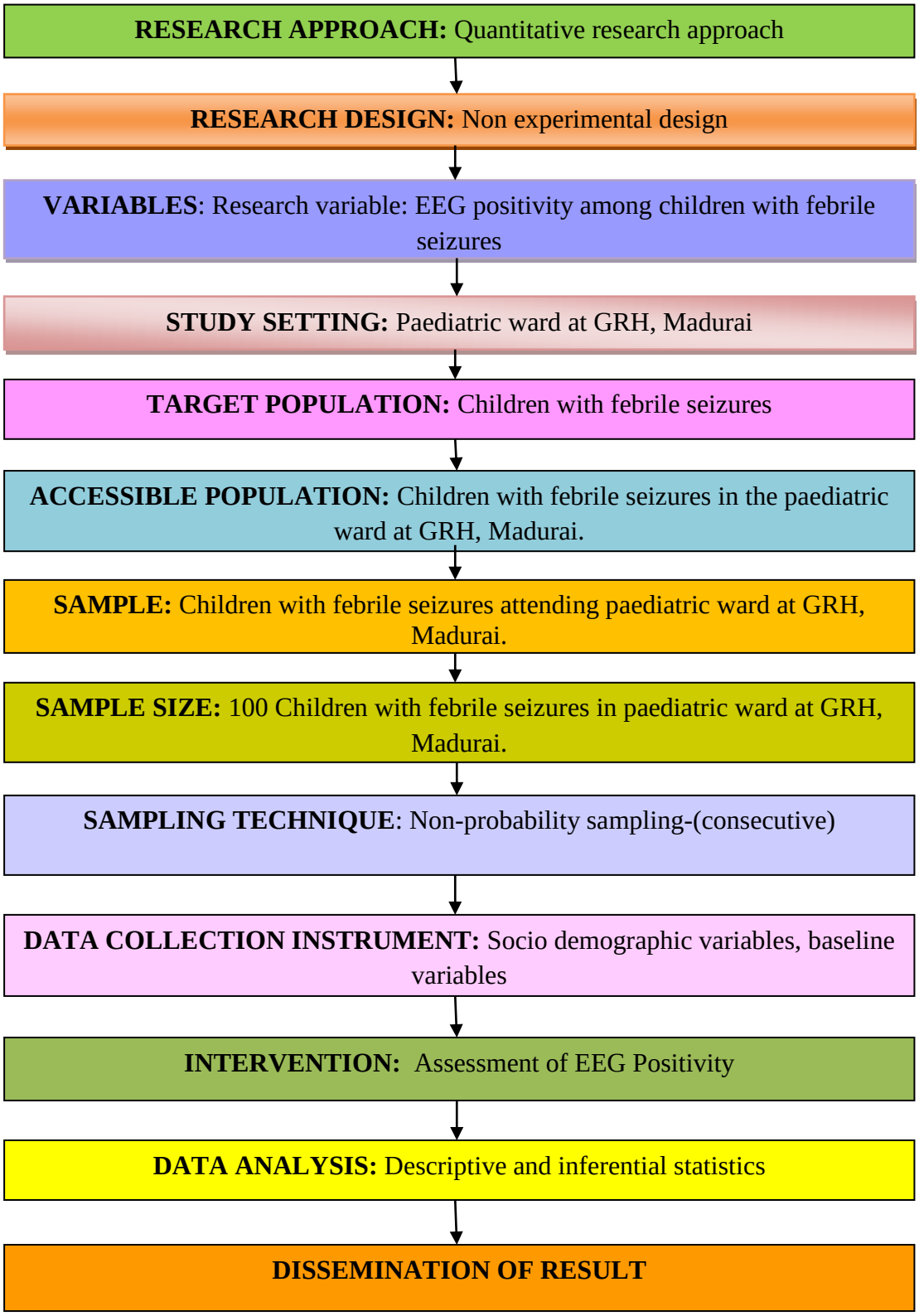
Inferential statistics include

1. Chi- square analysis was used to find out the association between EEG positivity among children with their selected socio demographic variables and baseline variables.
2. Pearson correlation coefficienttest was used to find out the correlation between EEG positivity and febrile seizures children.

3.16 Protection of human rights

Research proposal was approved by the dissertation committee of College Of Nursing, Madurai Medical College, Madurai, Head of the Department of Pediatrics, in Institute of Child Health and Research Centre, at Government Rajaji Hospital, Madurai. An oral and written consent of febrile seizures children can be obtained before starting the data collection. Positive benefits were explained to all the caregiver of febrile seizures children. They were explaining that they may withdraw from the study at any time without any penalty. Assurance can be given to the subjects that confidentiality to be maintained throughout the study.

3.17 Schematic Representation of Research Study



Data Analysis and Interpretation

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the description of sample, analysis, and interpretation of the data collected to evaluate the achievement of the objectives of the study. The data collected were tabulated and described as follows. In this chapter the data collected were edited, tabulated, analyzed and interpreted. The findings were organized and presented in the following orderly sections.

The data collected were interpreted under the following sections

Section I

Distribution of children with febrile seizures according to their selected socio demographic variables and baseline variables.

Section II

Distribution of children with febrile seizures according to EEG report.

Section-III

Description of the correlation between EEG positivity and febrile seizures among children with febrile seizures.

Section-IV

Association between the EEG positivity among children with febrile seizures with their selected socio demographic variables and baseline variables.

SECTION - I

Distribution of children with febrile seizures according to their selected socio demographic variables and baseline variables.

Table – 1

Frequency and percentage distribution of children with febrile seizures according to their selected socio demographic variables.

n=100

S.No	Socio demographic variables	f	%
1	**Age**		
	a.6 months to < 1 year	18	18%
	b.1to <3 years	44	44%
	c.3 – 5 years	38	38%
2	**Gender**		
	a.Male	62	62%
	b. Female	38	38%
3	**Birth order of the child**		
	a. First child	70	70%
	b. Second child	24	24%
	c. Third child	6	6%
	d. More than three children	0	0%
4	**Religion**		
	a. Hindu	95	95%
	b Christian	2	2%
	c. Muslim	3	3%
	d. Others	0	0%
5	**Type of family**		
	a. Nuclear family	69	69%
	b. Joint family	28	28%
	c. Extended family	3	3%

6	**Residence**		
	a. Rural	66	66%
	b. Urban	34	34%
7	**Income of the family per month**		
	a. Less than ₹ 2000	0	0%
	b. ₹ 2001- ₹4000	3	3%
	c. ₹ 4001- ₹ 6000	9	9%
	d. ₹ 60001 and above	88	88%
8	**Educational status of Father**		
	a. No formal	12	12%
	b. Primary education	47	47%
	c. Secondary education	35	35%
	d. Graduate	6	6%
9	**Educational status of Mother**		
	a. No formal	8	8%
	b. Primary education	44	44%
	c. Secondary education	42	42%
	d. Graduate	6	6%
10	**Maternal habits**		
	a. Use of alcohol	0	0%
	b. Smoking	2	2%
	c. None	98	98%

Table 1 explains distribution of children with febrile seizures according to their selected socio demographic variables

According to the age, majority of the subjects 44 (44%) belongs to the age group between 1 to < 3 years, 38 (38%) belongs to the age group between 3 to 5 years, 18 (18%) belong to the age group between 6 months to < 1 year.

Regarding gender, majority of the subjects 62 (62%) were male children, 38 (38%) were female children.

Considering the birth order, majority of the subjects 70 (73%) were first child, 24 (24%) were second child, 6 (6%) were third child, none of them had birth order more than three children.

Based on the religion, majority of the subjects 95 (95%) belongs to Hindu, 3 (3%) belong to Muslim 2 (2%) belong to Christian, none of them belongs to others.

With respect of the type of family, majority of the subjects 69 (69%) were from nuclear family, 28 (28%) were from joint family, 3 (3%) were from extended family.

While discussing the area of residence, majority of the subjects 66(66%) were from rural area, 34 (34%) were from urban area.

While stating the family income per month, majority of the subjects 88 (88%) were earned more than ₹ 6000, 9 (5%) were earned between ₹ 4001-6000, 3(3%) were earned between ₹ 2001- 4000, none of them were earned below ₹ 2000.

Based on the education status of the father, majority of the subjects 47 (47%) studied upto primary education, 35(35%) studied upto secondary education, 12(12%) had no formal education, 6 (6%) studied upto graduate education.

With view of the educational status of mother, majority of the subjects 44 (44%) studied upto primary education, 42 (42%) studied upto secondary education, 8 (8%) had no formal education, 6 (6%) studied upto graduate education.

Regarding maternal habits, majority of the subjects (98%) had no habits of alcoholism and smoking, 2 (2%) had smoking habit, none of them had habit of alcohol.

Distribution of subjects according to age

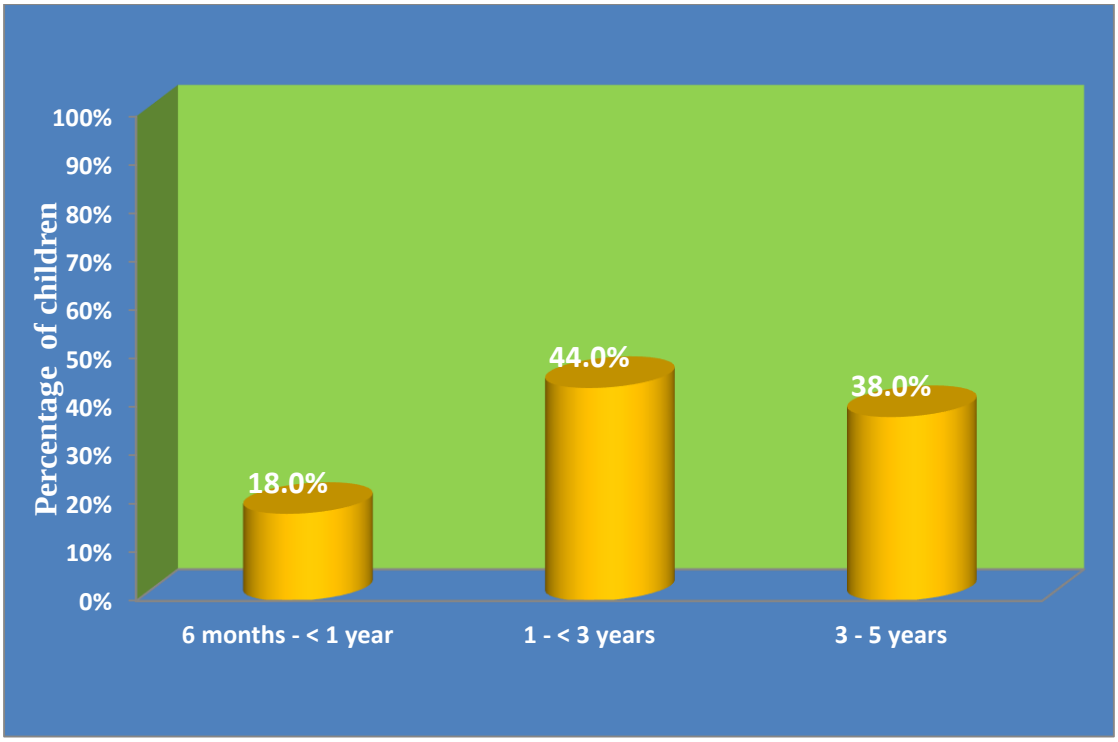


Figure 2: Multiple bar diagram quotes distribution of subjects according to their age.

The above bar diagram quotes distribution of children with febrile seizures according to the age, majority of the subjects 44 (44%) belongs to the age group between 1 to < 3 years, 38 (38%) belongs to the age group between 3 to 5 years, 18 (18%) belongs to the age group between 6 months to < 1 year.

Distribution of subjects according to gender

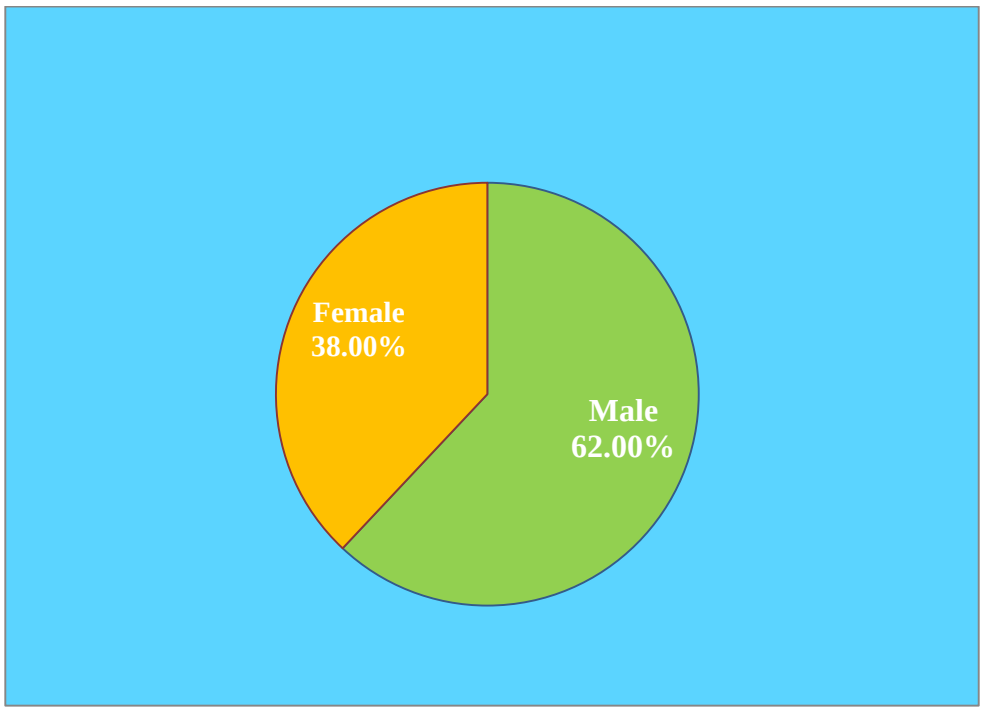


Figure 3: Pie diagram depicts distribution of subjects according to their gender

The above diagram depicts distribution of children with febrile seizures regarding gender, majority of the subjects 62 (62%) were male children, 38 (38%) were female children.

Distribution of subjects according to birth order

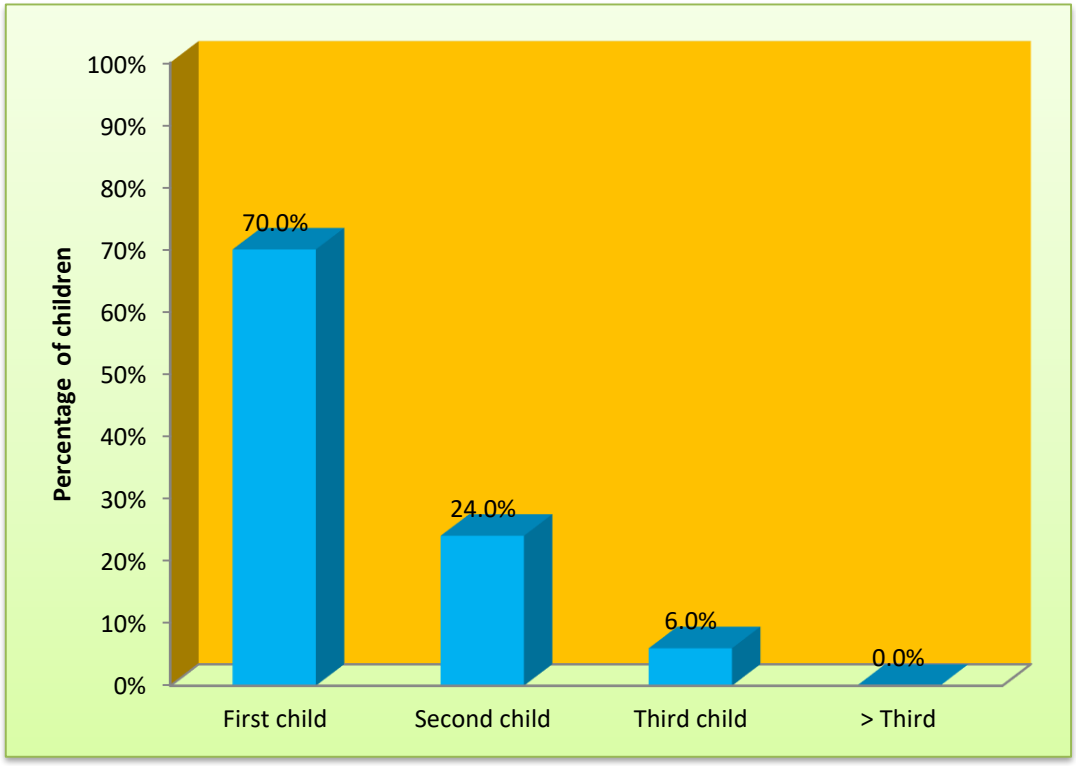


Figure 4: Simple bar diagram represents distribution of subjects according to their birth order

The above diagram represents distribution of children with febrile seizures considering the birth order, majority of the subjects 70 (73%) were first child, 24 (24%) were second child, 6 (6%) were third child, none of them were more than three children.

Distribution of subjects according to religion

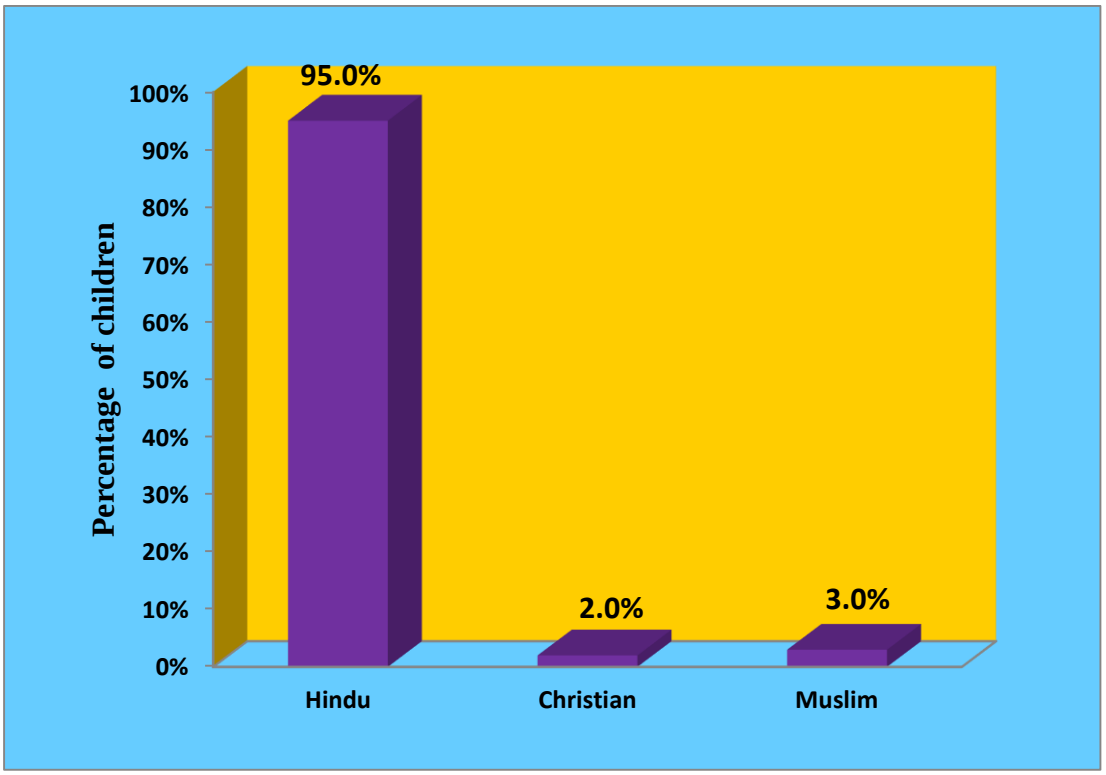


Figure 5: Simple bar diagram explains distribution of subjects according to their religion

The above diagram explains distribution of children with febrile seizures based on the religion, majority of the subjects 95 (95%) belongs to Hindu, 3 (3%) belongs to Muslim 2 (2%) belongs to Christian, none of them belongs to others.

Distribution of subjects according to type of family

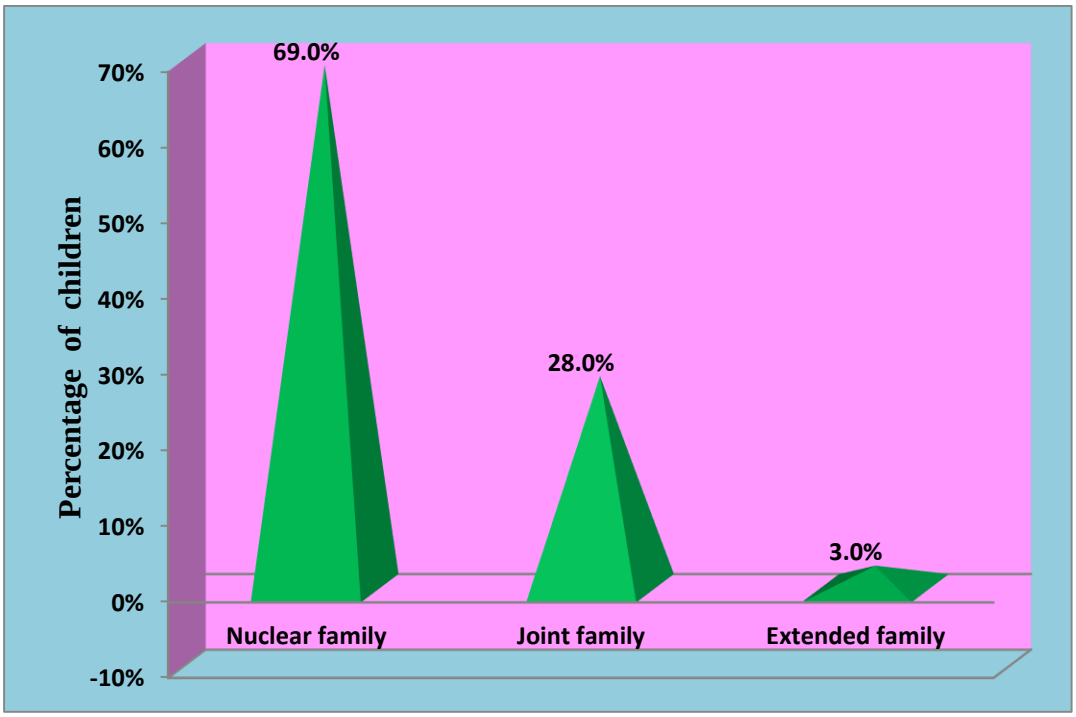


Figure 6: Simple bar diagram represents distribution of subjects according to their type of family.

The above diagram represents distribution of children with febrile seizures with respect of the type of family, majority of the subjects 69 (69%) were from nuclear family, 28 (28%) were from joint family, 3 (3%) were from extended family.

Distribution of subjects according to residence

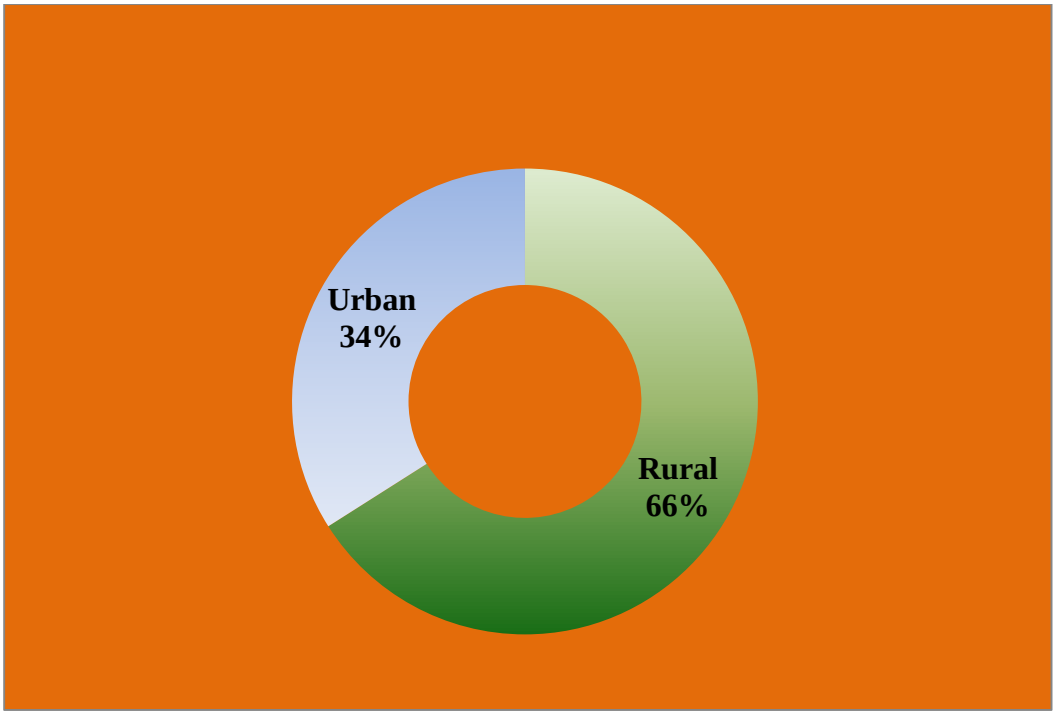


Figure 7: Daughnut diagram quotes distribution of subjects according to their place of residence

The above diagram quotes distribution of children with febrile seizures while discussing the area of residence, majority of the subjects 66 (66%) were from rural area, 34 (34%) were from urban area.

Distribution of subjects according to monthly income

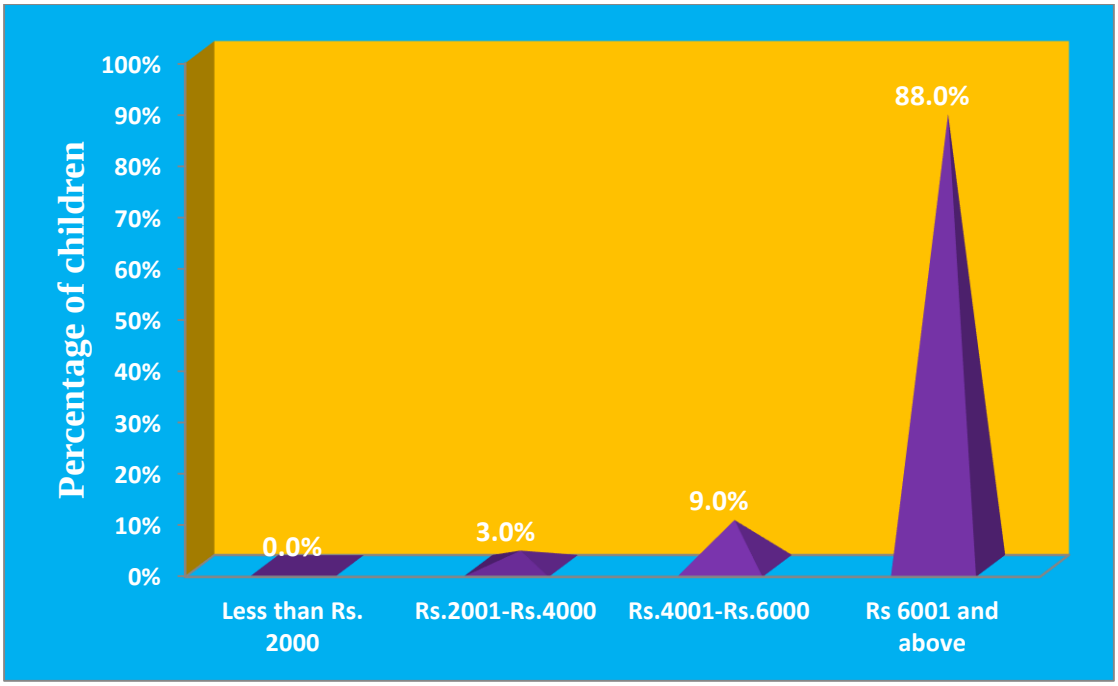


Figure 8: Simple bar diagram quotes distribution of subjects according to their monthly income

The above diagram quotes distribution of children with febrile seizures while stating the family income per month, majority of the subjects 88 (88%) were earned more than ₹ 6000, 9(9%) were earned between ₹ 4001–6000, 3 (3%) were earned between ₹ 200–4000, none of them were earned below ₹ 2000.

Distribution of subjects according to father educational status

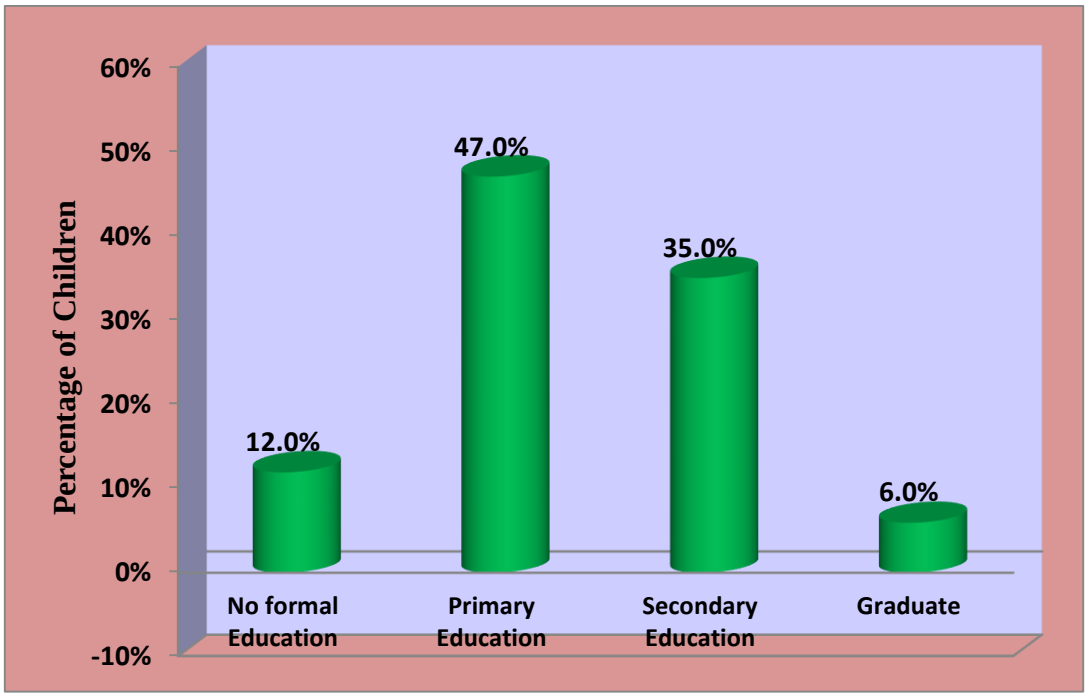


Figure 9: Simple bar diagram represents distribution of subjects according to their educational status of father

The above diagram represents distribution of children with febrile seizures based on the educational status of the father, majority of the subjects 47 (47%) studied upto primary education, 35 (35%) studied upto secondary education, 12 (12%) had no formal education, 6 (6%) studied upto graduate education.

Distribution of subjects according to mother educational status

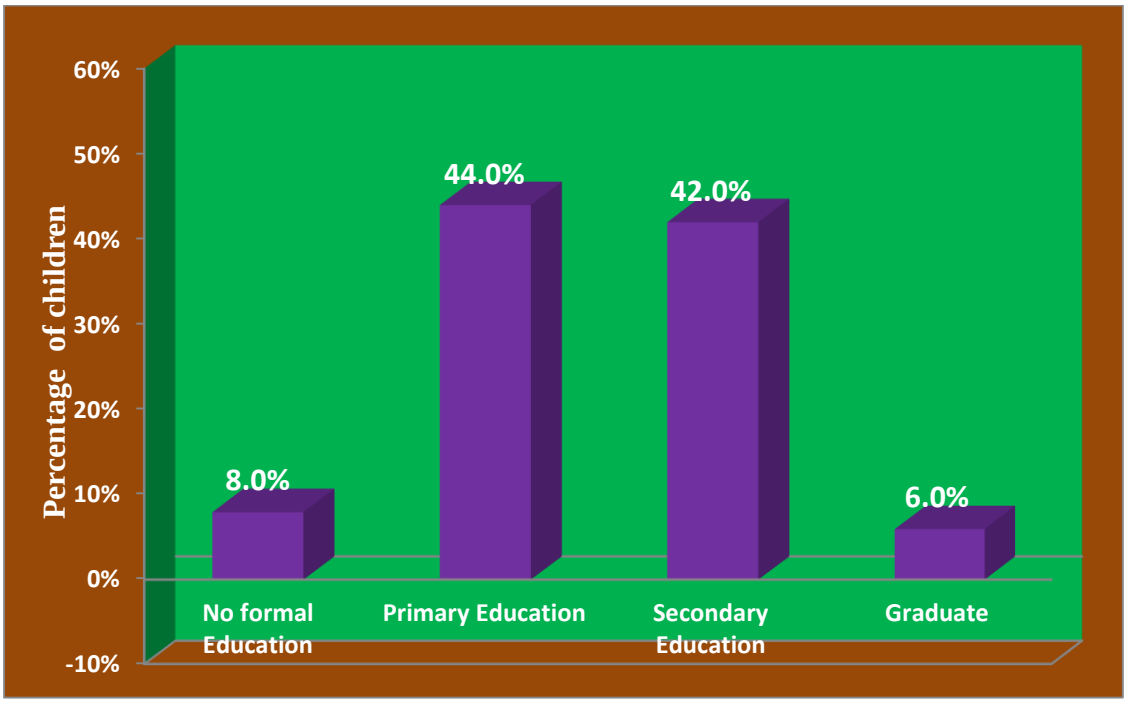


Figure 10: Simple bar diagram quotes distribution of subjects according to their educational status of mother

The above diagram quotes distribution of children with febrile seizures with view of the educational status of mother, majority of the subjects 44 (44%) studied upto primary education, 42 (42%) studied upto secondary education, 8 (8%) had no formal education, 6 (6%) studied upto graduate education

Distribution of subjects according to maternal habits

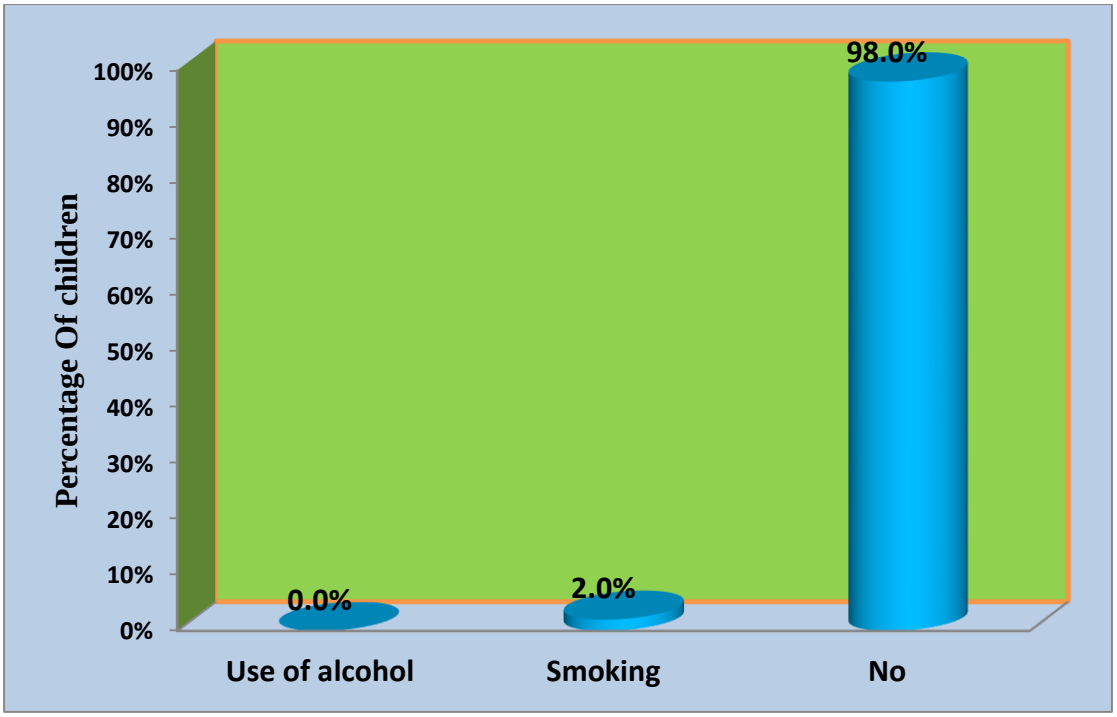


Figure 11: Simple bar diagram explains distribution of subjects according to their maternal habits

The above diagram explains distribution of children with febrile seizures regarding maternal habits, majority of the subjects (98%) had no habits of alcoholism and smoking, 2 (2%) had smoking habit, none of them had habit of alcohol.

Table:2 Frequency and percentage distribution of baseline variables among children with febrile seizures

n=100

S. No	Baseline variables	f	%
1	**Did you have past history of febrile seizures?**		
	a. Yes	92	92%
	b. No	8	8%
2	**Treatment for previous illness**		
	a. 1 time	8	8%
	b. 2 times	88	88%
	c. More than 2 times	4	4%
	d. None	o	0%
3	**Did you Suffer respiratory Infection?**		
	a. Yes	96	96%
	b. No	4	4%
4	**How often suffered respiratory Infection?**	38	38%
	a. 1 time	43	43%
	b. 2 time	14	14%
	c. More than 2 times	5	5%
	d. No		
5	**Did you have family history of febrile Seizures?**		
	a. Yes	17	17%
	b. No	83	83%
6	**Did you have family history of Epilepsy?**		
	a. Yes	7	7%
	b. No	93	93%

S. No	Baseline Variables	(F)	(%)
7	**Did you have febrile seizures after immunization?**		
	a. Yes	2	2%
	b. No	98	98%
8	**Temperature**		
	a. 101^0 F	0	0%
	b. 102^0F	4	4%
	c. Above 103^0F	96	96%
9	**Type of febrile Seizures**		
	a. Simple	8	8%
	b. Complex	92	92%
10	**Duration of febrile Seizures**		
	a. Less than 5 minutes	8	8%
	b. Above 5 minutes	92	92%
11	**Frequency of febrile seizures per day**		
	a. 1 time	8	8%
	b. 2 time	59	59%
	c. 3 time	11	11%
	d. More than 3 time	22	22%
12	**Maintenance of personal hygiene**		
	a. Adequate	83	83%
	b.Inadequate	17	17%

Table 2 explains distribution of subjects according to their baseline variables

While identifying the past history of febrile seizures, majority of the subjects 92 (92 %) had no past history of febrile seizures, 8 (8 %) had a past history of febrile seizures.

While mentioning the treatment for previous illness, majority of the subjects 88 (88%) were taken treatment 2 times, 8(8%) were taken treatment 1 time, 4(4%) were taken treatment 3 times, none of them was taken treatment.

Based on suffering respiratory infection, majority of the subjects 96 (96%) were suffered respiratory infection, 4 (4 %) were not suffered respiratory infections.

While denoting how often suffering respiratory infection, majority of the subjects 43 (43%) were suffered 2 times, 38 (38%) were suffered 1 time, 14 (14%) were suffered more than 2 times, and 5 (5%) were not suffered with respiratory infection.

Considering family history of febrile seizures, majority of the subjects 83 (83%) had no family history of febrile seizures, 17 (17%) had a family history of febrile seizures.

While stating family history of epilepsy, majority of the subjects 93 (93%) had no family history of epilepsy, 7 (7%) had family history of epilepsy.

Regarding febrile seizures after immunization, majority of the subjects 98 (98%) had no history, 2 (2%) had a history of febrile seizures after immunization.

With view of temperature in children with febrile seizures, majority of the subjects 96 (96%) had 103^0F, 4 (4%) had 102^0F, none of them had 101^0 F.

Regarding type of febrile seizures, majority of the subjects 92(92%) had complex febrile seizure, 8 (8%) had simple febrile seizure.

While depicting duration of febrile seizures, majority of the subjects 92 (92%) had more than 5 minutes, 8 (8%) had less than 5 minutes duration of febrile seizures.

Based on frequency of febrile seizure per day, majority of the subjects 59 (59%) were occurring 2 time, 22 (22%) were occurring more than 3 time, 11 (11%) were occurring 3 time, 8 (8%) were occurring 1 time frequency of febrile seizures.

With respect of maintenance of personal hygiene in febrile seizures children, majority of the subjects 83 (83%) had adequate of personal hygiene, and 17(17%) had inadequate of personal hygiene.

Distribution of subjects according to baseline variables

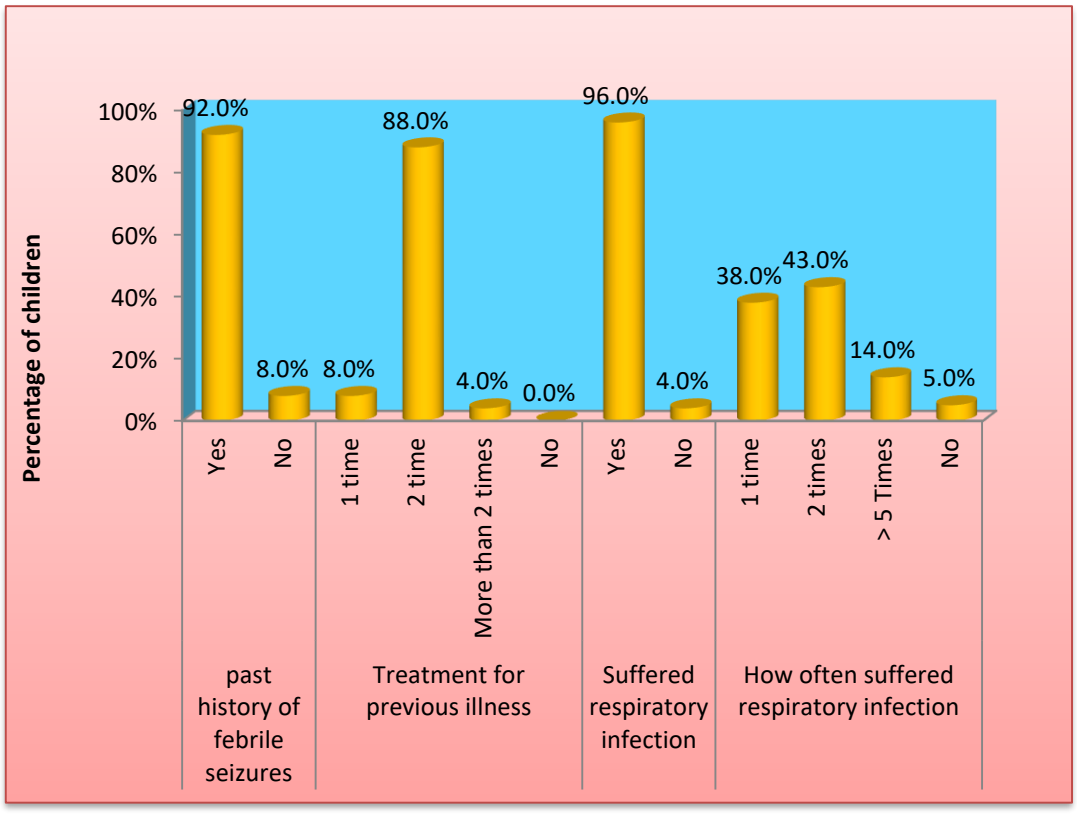


Figure 12: Simple bar diagram manifests distribution of children with febrile seizures according to their past history of febrile seizures, treatment for previous illness, suffered respiratory infection, how often suffered respiratory infection.

The above simple bar diagram while identifying the past history of febrile seizures, majority of the subjects 92 (92 %) had no past history of febrile seizures, 8 (8 %) had a past history of febrile seizures. While mentioning the treatment for previous illness, majority of the subjects 88 (88%) were taken treatment 2 times, 8 (8%) were taken treatment 1 time, 4(4%) were taken treatment 3 times, none of them was taken treatment. Based on suffering respiratory infection, majority of the subjects 96 (96%) were suffered respiratory infection, 4 (4 %) were not suffered respiratory infections. While denoting how often suffering respiratory infection, majority of the subjects 43 (43%) were suffered 2 times, 38 (38%) were suffered 1 time, 14 (14%) were suffered more than 2 times, and 5 (5%) were not suffered with respiratory infection.

Distribution of subjects according to baseline variables

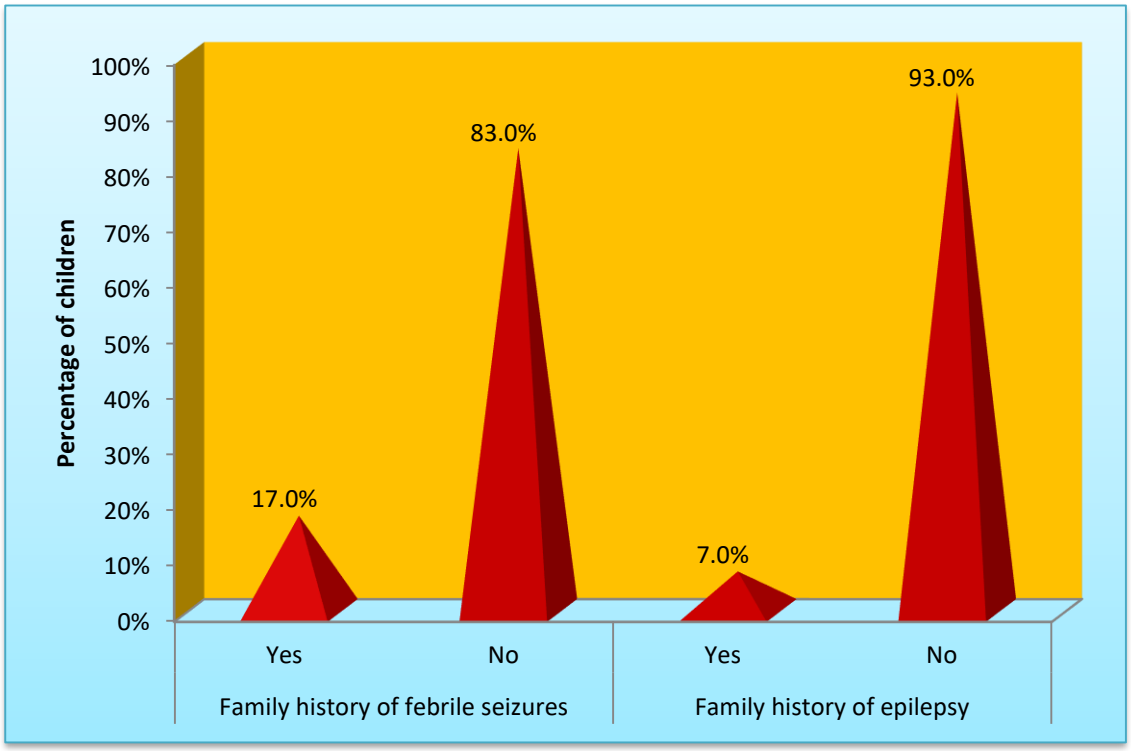


Figure 13: Simple bar diagram shows distribution of subjects according to their family history of febrile seizures, family history of epilepsy.

The simple bar diagram considering family history of febrile seizures majority of the subjects 83 (83%) had no family history of febrile seizures, 17 (17%) had a family history of febrile seizures. While stating family history of epilepsy, majority of the subjects 93 (93%) had no family history of epilepsy, 7 (7%) had family history of epilepsy.

Distribution of subjects according to baseline variables

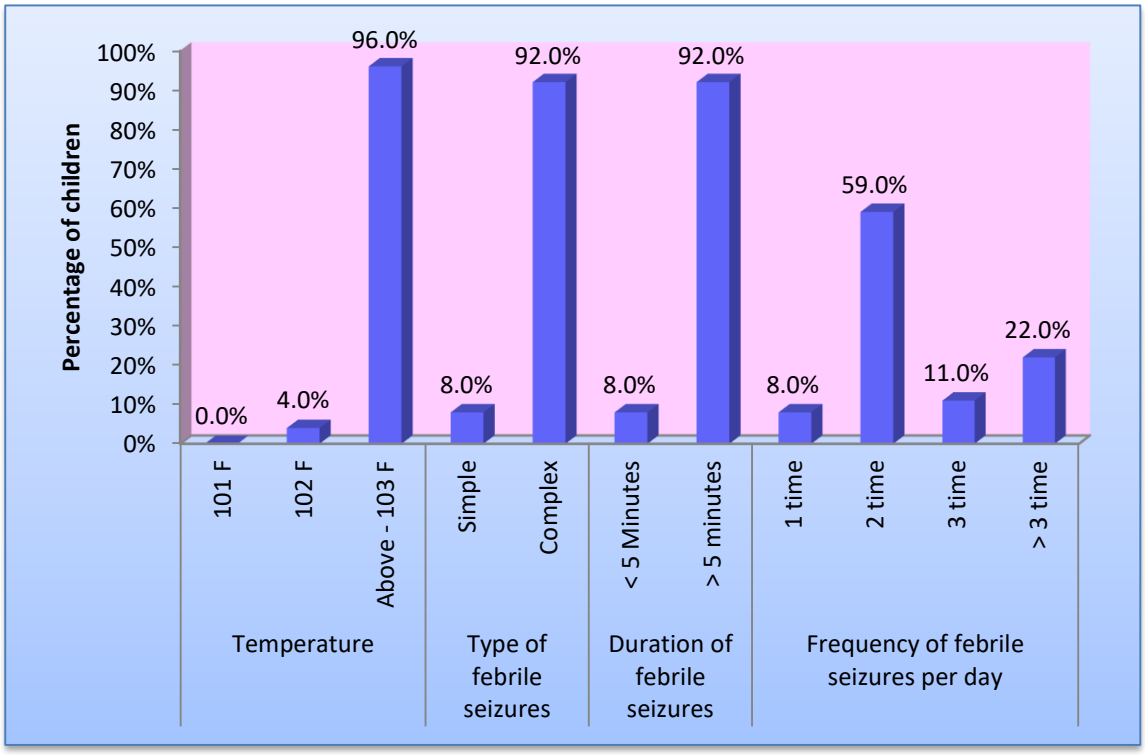


Figure14: Simple bar diagram shows distribution of subjects according to their temperature, type of febrile seizures, duration of febrile seizures, frequency of febrile seizures per day.

The simple bar diagram shows with view of temperature in children with febrile seizures, majority of the subjects 96 (96%) had 103^0F, 4 (4%) had 102^0 F, none of them had 101^0 F. Regarding type of febrile seizures, majority of the subjects 92 (92%) had complex febrile seizure, 8 (8%) had simple febrile seizure. While depicting duration of febrile seizures, majority of the subjects 92 (92%) had more than 5 minutes, 8 (8%) had less than 5 minutes duration of febrile seizure. Based on frequency of febrile seizures per day, majority of the subjects 59 (59%) were occurred 2 times, 22 (22%) were occurred more than 3 times, 11 (11%) were occurring 3 times, 8 (8%) were occurred 1 time frequency of febrile seizures.

SECTION II

Distribution of children with febrile seizures according to EEG report

Table-3

Frequency and percentage distribution of subjects according to their EEG report

EEG Report	f	%
Positive	92	92%
Negative	8	8%
Total	100	100%

Table 3 explains the children with febrile seizures according EEG report

While assessing EEG report among children with febrile seizures, majority of the subjects 92 (92%) had positive EEG report and 8 (8%) had negative EEG report.

Distribution of subjects according to EEG report

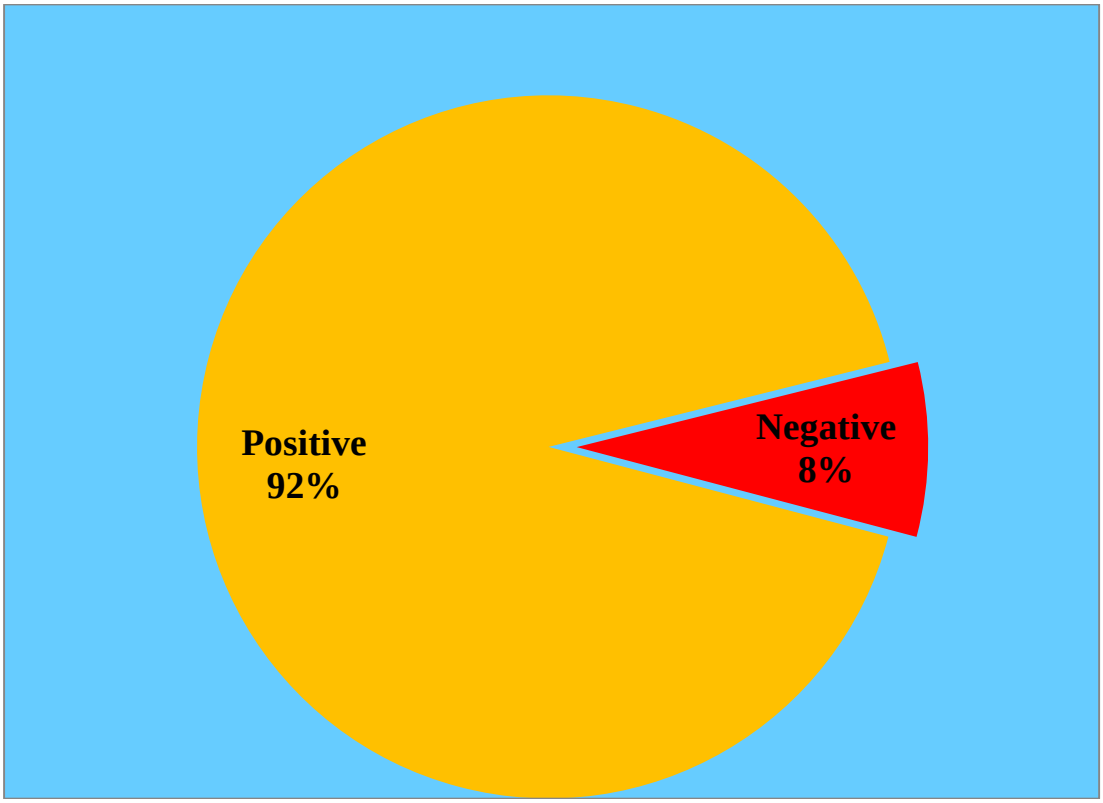


Figure 15: Pie diagram shows distribution of children with febrile seizures according to their EEG report

While assessing EEG Positivity among children with febrile seizures, majority of the subjects 92 (92%) had positive EEG report and 8 (8%) children had negative EEG report.

SECTION III

Description of the correlation between EEG positivity and febrile seizures among children with febrile seizures

Table 4

Correlation between EEG positivity and febrile seizures among children with febrile seizures

n=100

Variables	EEG report	f	Mean	SD	Student independent t-test	Student independent t-test	interpretation
Age	Negative	8	2.13	0.99	**t=1.99 P=0.05*(S)**	**r=0.32 P=0.001***(S))**	Elder children are having more positivity
	Positive	92	3.04	1.26			
Treatment for previous illness	Negative	8	1.85	0.60	**t=5.37 P=0.001***(S)**	**r=0.47 P=0.001***(S)**	Positive children are having more numberof times having treatment
	Positive	92	3.12	0.99			
How often Suffered respiratory infection	Negative	8	2.22	1.31	**t=3.57 P=0.001***(S)**	**r=0.44 P=0.001***(S)**	positive children are having more number of times having respiratory infection
	Positive	92	4.12	2.58			
Frequency of febrile seizures per day	Negative	8	2.76	1.38	**t=4.26 P=0.001***(S)**	**r=0.35 P=0.001***(S)**	Positive children are having more number of times having febrile seizures
	Positive	92	5.12	2.58			

Temperature	Negative	8	103.12	1.12	**t=4.19 P=0.001***(S)**	**r=0.49 P=0.001***(S)**	positive children are having high temperature
	Positive	92	104.21	0.65			
Duration of febrile seizures	Negative	8	3.50	0.53	**t=8.76 P=0.001***(S)**	**r=0.55 P=0.001***(S)**	positive children are having more duration of febrile seizures
	Positive	92	7.50	1.13			

***P<0.05 significant ***P<0.001 very high significant**

Regarding age of children with febrile seizures, majority 92 had positive EEG report and the mean score was 3.04 with standard deviation1.26. Whereas 8 had negative EEG report and the mean score was 2.13 with standard deviation 0.99. Student independent "t" test was to find out difference between EEG positivity with their age, the calculated "t" value 1.99 at 0.05 level and r=0.32 and it is fairly correlated. Younger age children were having more positivity.

With the aspect of treatment for previous illness, majority 92 had positive EEG report and the mean score was 3.12 with standard deviation 0.99. Whereas 8 had negative EEG report and the mean score was 1.85 with standard deviation 0.60.Student independent "t" test was to find out difference between EEG positivity with the base line variables (Treatment for previous illness) the calculated "t" value 5.37 at 0.001 level and r=0.47 and it is moderately correlated. Positive children were having more number of times having treatment.

With regards to how often suffered respiratory infection, majority 92 had positive EEG report and the mean score was 4.12 with standard deviation 2.58.Whereas 8 had negative EEG report and the mean score was 2.22 with standard deviation 1.31.Student independent "t" test was to find out difference between EEG positivity with their base line variables (how often suffered respiratory infection) the

calculated “t”value 3.57 at 0.001 level and r=0.44 and it is moderately correlated. Positive children were having more number of times having respiratory infection.

Regarding frequency of febrile seizures, majority 92 had positive EEG report and the mean score was 5.12 with standard deviation 2.58. Whereas 8 had negative EEG report and the mean score was 2.76 with standard deviation 1.38.Student independent “ t” test was to find out difference between EEG positivity with their base line variables (frequency of febrile seizure) the calculated “t”value 4.26 at 0.001 level and r=0.35, it is fairly correlated. Positive children were having more number of times having febrile seizures.

In aspect of Temperature, majority 92 had positive EEG report and the mean score was 104.21 with standard deviation 0.65.Whereas 8 had negative EEG report and the mean score was 103.12 with standard deviation 1.12.Student independent “t” test was to find out difference between EEG positivity with their base line variables (temperature) the calculated “t” value 4.19 at 0.001 level and r =0.49 and it is fairly correlated. Positive children were having high temperature.

Regarding duration of febrile seizures, majority 92 had positive EEG report and the mean score was 7.50 with standard deviation 1.13.Whereas 8 had negative EEG positivity and the mean score was 3.50 with standard deviation 0.53.Student independent “t” test was to find out difference between EEG positivity with their base line variables (duration of febrile seizure) the calculated “t”value 8.76 at 0.001 level and r=0.55 and it is fairly correlated. Positive children were having more duration of febrile seizures.

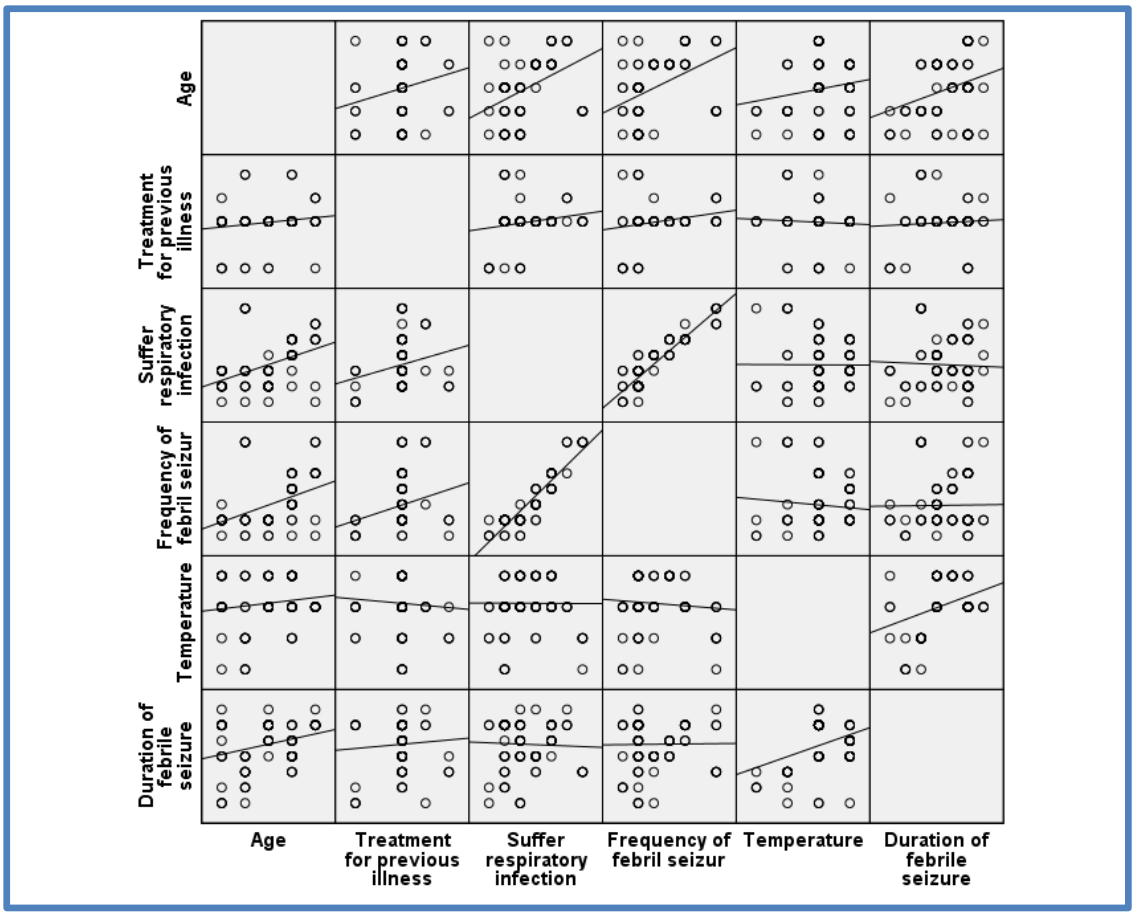


Figure 16: Scatter plot with regression estimate shows the positive correlation between EEG positivity and children with febrile seizures and their selected socio demographic variables and baseline variables

The above scatter plot diagram shows the positive correlation between EEG positivity and febrile seizures. According to age, younger children (t=1.99, p=0.05,r=0.32), had more number of times take treatment for previous illness(t=5.37, r=0.47)and more number of times suffered with respiratory infection (t=5.37, r=0.44) and children frequently had febrile seizure (t=4.26, r=0.35) with high temperature (t=4.19, r=0.49) and had more duration of time with febrile seizures (r=8.76, p=0.001,r=0.55) at 0.001 level.

SECTION IV

Association between the EEG positivity among children with febrile seizures with their selected socio demographic variables and baseline variables

Table 5

Association between the EEG positivity among children with febrile seizures with their selected socio demographic variables

n=100

Socio demographic variables		EEG report				χ^2
		Negative (n=8)		Positive (92)		
		f	%	f	%	
Age	6 months to< 1 year	3	37.50%	15	16.30%	**χ^2=5.89 P=0.05*(S)**
	1to<3 years	5	62.50%	39	42.39%	
	3 to 5 years	0	0.00%	38	41.31%	
Gender	Male	4	50.00%	58	63.04%	χ^2=0.53 P=0.46(NS)
	Female	4	50.00%	34	36.96%	
Birth order	First child	6	75.00%	64	69.57%	χ^2=1.12 P=0.57(NS)
	Second child	1	12.50%	23	25.00%	
	Third child	1	12.50%	5	5.43%	
	> Third	0	0.00%	0	0.00%	
Religion	Hindu	8	100.00%	87	94.57%	χ^2=0.45 P=0.79(NS)
	Christian	0	0.00%	2	2.17%	
	Muslim	0	0.00%	3	3.26%	
	Others	0	0.00%	0	0.00%	

Type of family	Nuclear family	5	62.50%	64	69.57%	$\chi 2=0.59$ P=0.74(NS)
	Joint family	3	37.50%	25	27.17%	
	Extended family	0	0.00%	3	3.26%	
Residence	Rural	5	62.50%	61	66.30%	$\chi 2=0.05$ P=0.82(NS)
	Urban	3	37.50%	31	33.70%	
Income of family per month	Less than ₹ 2000	0	0.00%	0	0.00%	$\chi 2=8.75$ P=0.01(NS)
	₹2001-₹4000	0	0.00%	3	3.26%	
	₹4001-₹6000	3	37.50%	6	6.52%	
	Rs 6001 and above	5	62.50%	83	90.22%	
Educational status of father	No formal Education	2	25.00%	10	10.87%	$\chi 2=2.74$ P=0.43(NS)
	Primary education	2	25.00%	45	48.91%	
	Secondary education	3	37.50%	32	34.78%	
	Graduate	1	12.50%	5	5.43%	
Educational status of mother	No formal education	1	12.50%	7	7.61%	$\chi 2=0.96$ P=0.81(NS)
	Primary education	3	37.50%	41	44.57%	
	Secondary education	3	37.50%	39	42.39%	
	Graduate	1	12.50%	5	5.43%	
Maternal habits	Use of alcohol	0	0.00%	0	0.00%	$\chi 2=0.18$ P=0.67(NS)
	Smoking	0	0.00%	2	2.17%	
	No	8	100.00%	90	97.83%	

The above table 5 denotes association between EEG positivity among children with febrile seizures with their selected socio demographic variables. Chi-square reveals that there was a significant association between EEG positivity and children with 1 to <3 years ($\chi 2=5.89$), p=(0.05) at 0.05% level. Other variable was not statistically significant associated with selected socio demographic variables and EEG positivity among children with febrile seizure.

Association between EEG positivity and children age

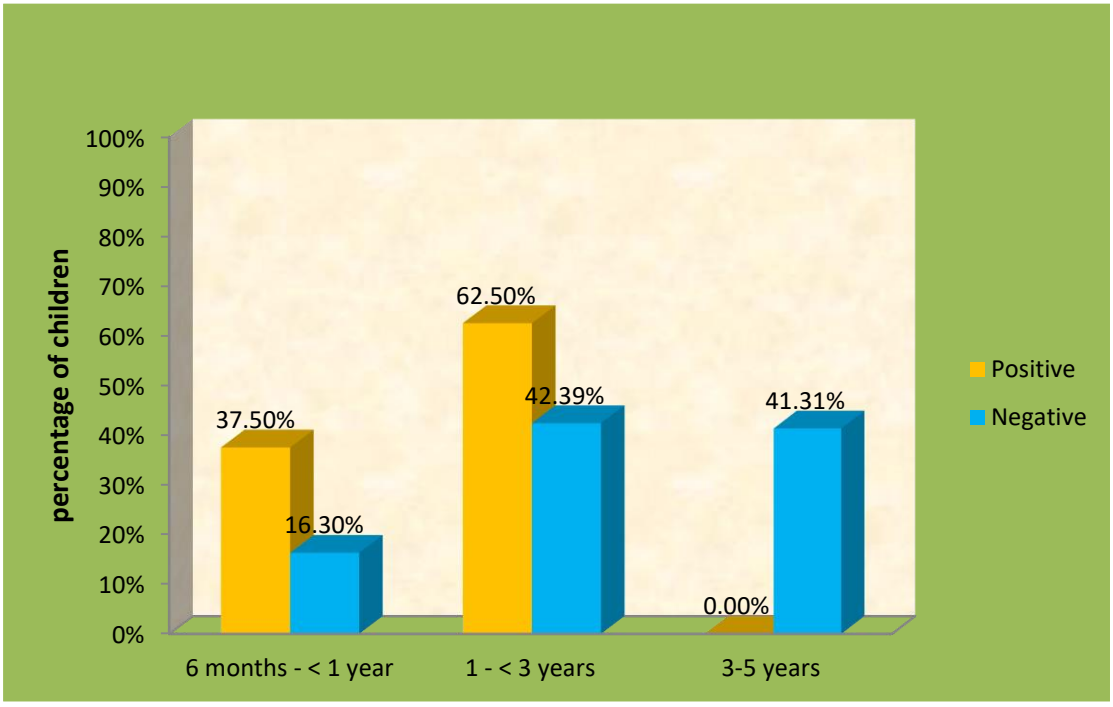


Figure 17: The multiple bar diagrams reveals that there was a significant association between EEG positivity and children with age group between 1 to < 3 years ($\chi 2$=5.89), p= (0.05) at 0.05% level.

Table:6Association between the EEG positivity among children with febrile seizures with their baseline variables.

n=100

Baseline variables		EEG report				χ^2
		Negative (n=8)		Positive (n=92)		
		f	%	f	%	
Past history of febrile seizures	Yes	0	0.00%	92	100.00%	**χ^2=100.00 P=0.001***(S)**
	No	8	100.00%	0	0.00%	
Treatment for previous illness	1 time	0	0.00%	0	0.00%	**χ^2=66.03 P=0.001***(S)**
	2 time	0	0.00%	88	95.66%	
	More than 2 times	2	25.00%	2	2.17%	
	No	6	75.00%	2	2.17%	
Suffered respiratory infection	Yes	7	87.50%	89	96.74%	χ^2=1.63 P=0.20(NS)
	No	1	12.50%	3	3.26%	
How often suffered respiratory infection	1 time	3	37.50%	35	38.04%	**χ^2=7.62 P=0.05*(S)**
	2 times	2	25.00%	41	44.57%	
	>2 Times	1	12.50%	13	14.13%	
	No	2	25.00%	3	3.26%	
Family history of febrile seizures	Yes	2	25.00%	15	16.30%	χ^2=0.39 P=0.53(NS)
	No	6	75.00%	77	83.70%	
Family history of epilepsy	Yes	0	0.00%	7	7.61%	χ^2=0.65 P=0.41(NS)
	No	8	100.00%	85	92.39%	

febrile seizures after immunization	Yes	0	0.00%	2	2.17%	$\chi 2=0.18$ P=0.67(NS)
	No	8	100.00%	90	97.83%	
Temperature	101^0 F	0	0.00%	0	0.00%	**$\chi 2=25.41$ P=0.001***(S)**
	102^0 F	3	37.50%	1	1.09%	
	Above - 103^0 F	5	62.50%	91	98.91%	
Type of febrile seizures	Simple	8	100.00%	0	0.00%	**$\chi 2=100.00$ P=0.001***(S)**
	Complex	0	0.00%	92	100.00%	
Duration of febrile seizures	Less than 5 Minutes	8	100.00%	0	0.00%	**$\chi 2=100.00$ P=0.001***(S)**
	> 5 minutes	0	0.00%	92	100.00%	
Frequency of febrile seizures per day	1 time	8	100.00%	0	0.00%	**$\chi 2=100.00$ P=0.001***(S)**
	2 time	0	0.00%	59	64.13%	
	3 time	0	0.00%	11	11.96%	
	More than 3 time	0	0.00%	22	23.91%	
Maintenance of personal hygiene	Adequate	7	87.50%	80	86.96%	$\chi 2=0.01$ P=0.96(NS)
	Inadequate	1	12.50%	12	13.04%	

The above table 6 denotes association between EEG positivity among children with Febrile Seizures with their selected baseline variables. Chi-square reveals that there was a significant association between EEG positivity and past history of febrile seizures ($\chi 2=100.00$), (p=0.001), treatment for previous illness ($\chi 2=66.03$), (p=0.001), how often suffered respiratory infection ($\chi 2=1.63$), (p=0.20), temperature ($\chi 2=25.41$), (p=0.001), type of febrile seizures (complex) ($\chi 2=100.00$), (p=0.001), duration of febrile seizures (more than 5 minutes) ($\chi 2=100.00$), (p=0.001), frequency of febrile seizures per day (more than 1 time) ($\chi 2=100.00$), (p=0.001). EEG positivity was not statistically significant associated with selected baseline variables among children with febrile seizures.

Association between EEG positivity and past history of febrile seizures

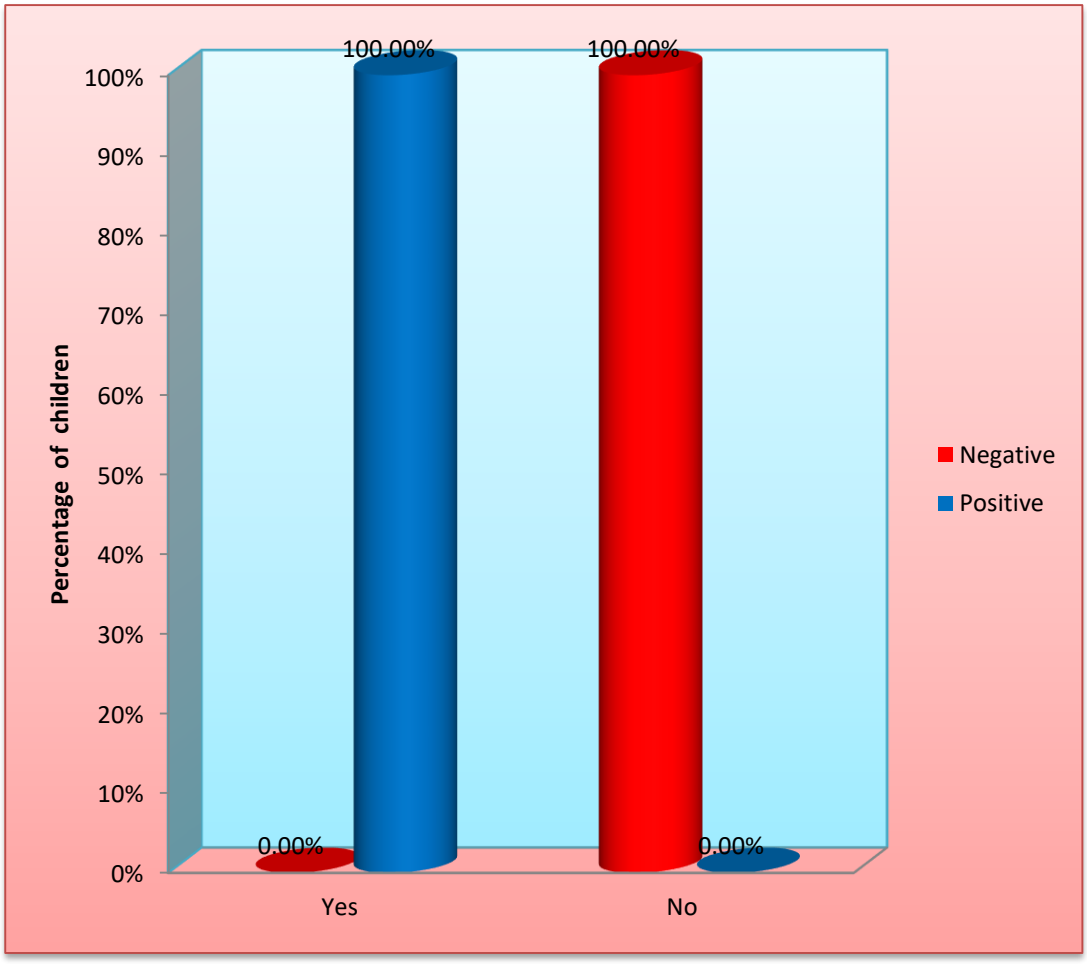


Figure 18: The multiple bar diagrams reveals that there was a significant association between EEG positivity and past history of febrile seizures ($\chi 2$=100.00), p= (0.001) at 0.05% level.

Association between EEG positivity and treatment for previous illness

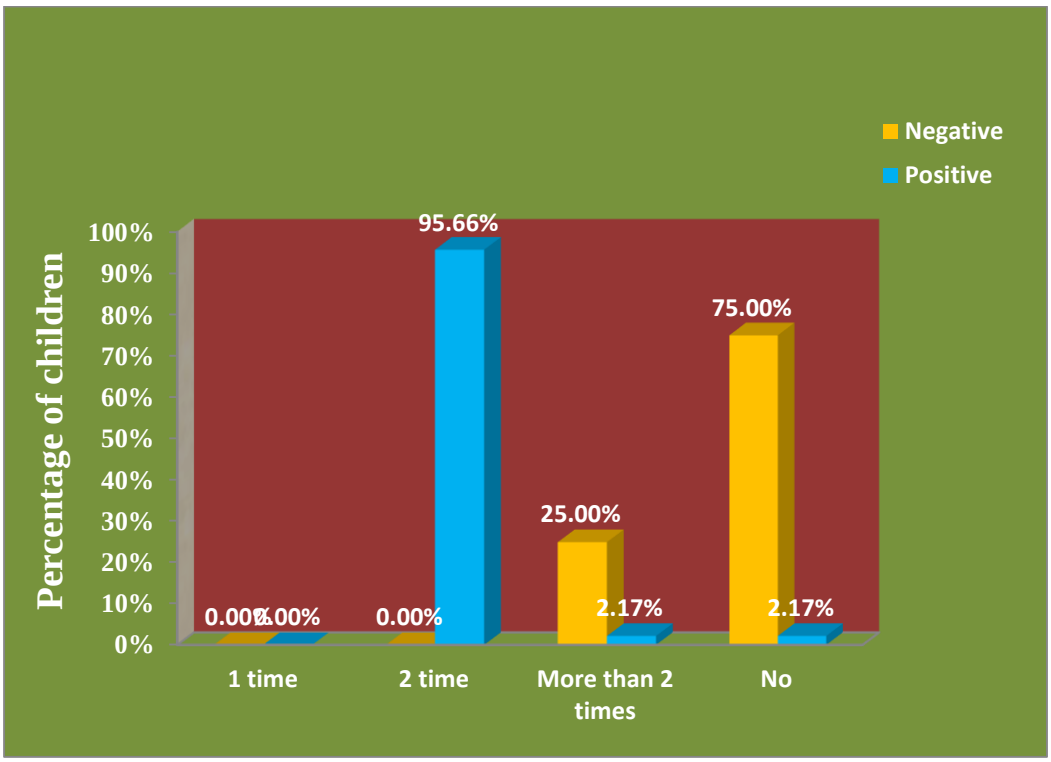


Figure 19: The multiple bar diagrams reveals that there was a significant association between EEG positivity and treatment for previous illness ($\chi 2=66.03$), p= (0.001) at 0.05% level.

Association between EEG positivity and how often suffered respiratory infection

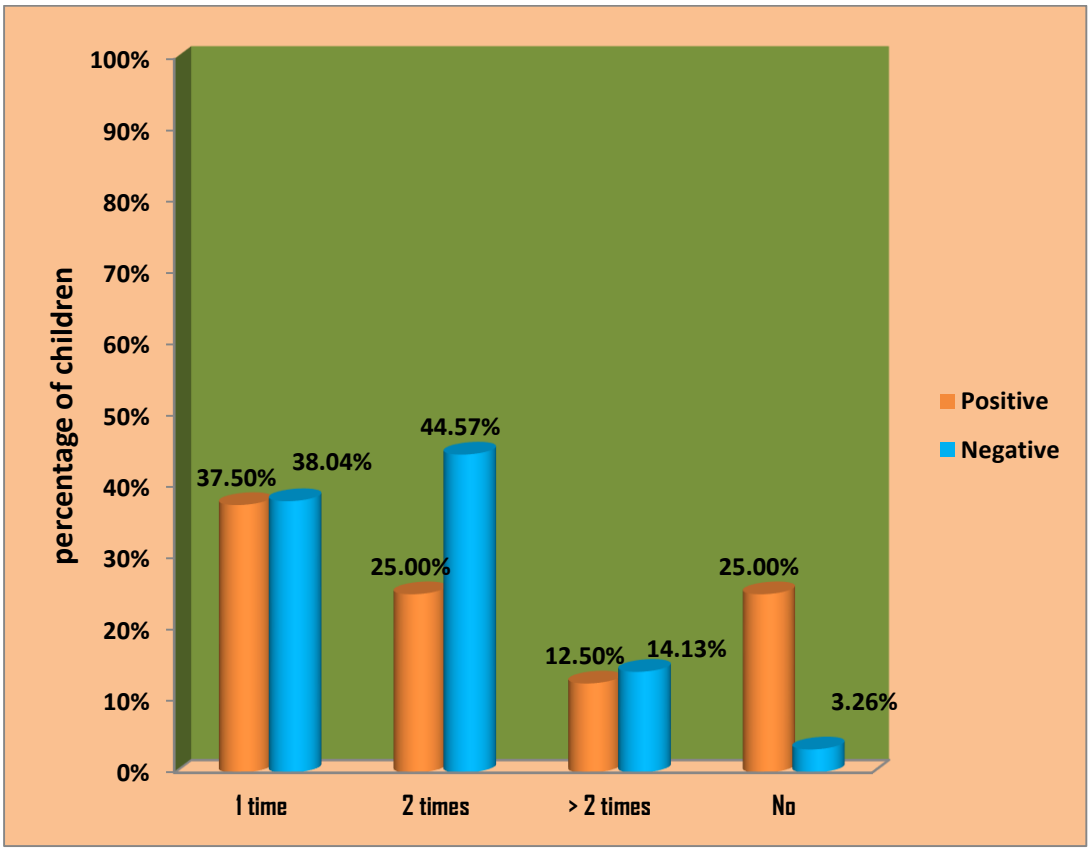


Figure 20: The multiple bar diagrams reveals that there was a significant association between EEG positivity and how often suffered respiratory infection ($\chi 2=1.63$), p= (0.20) at 0.05% level.

Association between EEG positivity and temperature, type of febrile seizures, duration of febrile seizures, frequency of febrile seizures per day

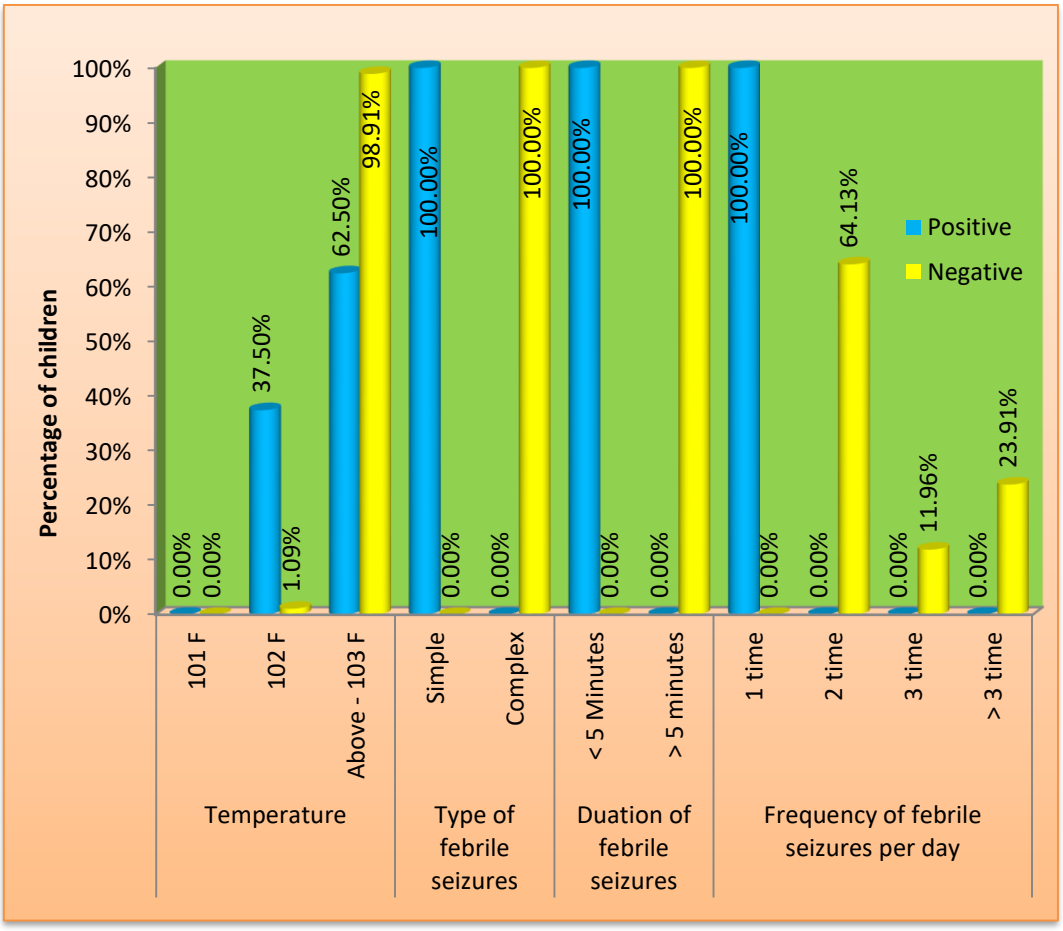


Figure 21: The multiple bar diagrams reveals that there was a significant association between EEG positivity and temperature ($\chi 2=25.41$), ($p=0.001$), type of febrile seizures ($\chi 2=100.00$), ($p=0.001$), duration of febrile seizures ($\chi 2=100.00$), ($p=0.001$), frequency of febrile seizures per day ($\chi 2=100.00$), ($p=0.001$) at 0.05% level.

Discussion

CHAPTER V

DISCUSSION

Based on the objectives of the study and hypothesis, this chapter deals with detailed discussion of the results of the data interpreted from the statistical analysis. The present study was focused to correlative of EEG positivity among children with febrile seizures at paediatric ward, Government Rajaji Hospital, Madurai.

The aim of the study was to assess EEG positivity among children with febrile seizures at Paediatric ward, Government Rajaji Hospital, Madurai.100 samples were selected by non–probability (Consecutive sampling) technique. EEG positivity was assessed by survey method and structured questionnaire. The tool used for the data collection was validated by the experts in the departments of Paediatric and Nursing.

Objectives of the study were

1. To assess the EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai.
2. To correlate the EEG positivity and febrile seizures among children with febrile seizures at paediatric ward, GRH, Madurai.
3. To associate the EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai and their selected socio demographic variables and base line variable.

The following hypotheses were tested at 0.05 level

Hypotheses

H_1: There is a statistically significant correlation between EEG positivity and febrile seizures among children with febrile seizures at paediatric ward, GRH, Madurai.

H_2: There is a significant association between EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai and their selected socio demographic variables and baseline variables.

The findings of the study were discussed under the following headings

- Distribution of children with febrile seizures according to their selected socio demographic variables and baseline variables.
- Distribution of children with febrile seizures according to EEG report.
- Description of correlation between EEG positivity and febrile seizures among children with febrile seizures.
- Association between the EEG positivity among children with febrile seizures with their selected socio demographic variables and baseline variables.

Children with febrile seizure have been a great problem in our society.World Health Organization (WHO), (2014) has estimated that more than 10 million children under five of age die each year in developing countries.The treatment for paediatric *population with febrile seizures are regarded as a heavy burden as* a government.

The sample included 100 paediatric populations respectively.

5.1 Distribution of febrile seizure children according to theirselected socio demographic variables

- According to the age, majority of the subjects 44 (44%) belongs to the age group between 1 to < 3 years.
- Regarding gender, majority of the subjects 62 (62%) were male children.
- Considering the birth order, majority of the subjects 70 (73%) were first child.
- Based on the religion, majority of the subjects 95 (95%) belongs to Hindu.
- With respect of the type of family**,** majority of the subjects 69 (69%) were from nuclear family.
- While discussing the area of residence, majority of the subjects 66 (66%) were from rural area.
- While stating the family income per month, majority of the subjects 88 (88%) were earned more than Rs. 6000.
- Based on the education status of the father, majority of the subjects 47 (47%) studied upto primary education.
- With view of the educational status of mother, majority of the subjects 44 (44%) studied upto primary education.
- Regarding maternal habits, majority of the subjects (98%) had no habits of alcoholism or smoking.

Discussion of baseline variables

- While identifying the past history of febrile seizures, majority of the subjects 92 (92 %) had no past history of febrile seizures.
- While mentioning the treatment for previous illness, majority of the subjects 88 (88%) were taken treatment 2 times.

- Based on suffering respiratory infection,majority of the subjects 96 (96%) were suffered respiratory infection.
- While denoting how often suffered respiratory infection, majority of the subjects 43 (43%) were suffered 2 times.
- Considering family history of febrile seizures, majority of the subjects 83 (83%) had no family history of febrile seizures.
- While stating family history of epilepsy, majority of the subjects 93 (93%) had no family history of epilepsy.
- Regarding febrile seizure after immunization, majority of the subjects 98 (98%) had no historyof febrile seizures.
- With view of temperature in children with febrile seizures, majority of the subjects 96 (96%) had 103^0F.
- Regarding type of febrile seizure, majority of the subjects 92 (92%) had complex febrile seizure.
- While depicting duration of febrile seizures, majority of the subjects 92 (92%) had more than 5 minutes.
- Based on frequency of febrile seizures per day, majority of the subjects 59 (59%) were occurring 2 times.
- With respect of maintenance of personal hygiene in febrile seizures children, majority of the subjects 83 (83%) had adequate of personal hygiene.

5.2 Discussion of the study based on its objectives

The first objective of the study was to assess the EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai.

While assessing EEG report among children with febrile seizures, majority of the subjects 92 (92%) had positive EEG report and 8 (8%) had negative EEG report.

The present study was supported by **Charuta Joshi, et al, (2005)**,was conducted retrospectively to assess utility of clinical variables at presentation in predicting the likelihood of an abnormal EEG, among 175 children, by consecutive sampling technique, and reported 39.43% had EEG abnormalities. Children with a normal EEG were younger than those with an abnormal EEG (mean age 15.72 months versus 19.75 months, $p < 0.05$). Using multivariate analysis, factors predictive of abnormal EEGs in children with complex febrile seizure were; age >3 years ($p = 0.010$; 95% CI: 1.5–18.8), EEGs performed within 7 days ($p = 0.00$; 95% CI: 1.78–7.12) and an abnormal neurological exam ($p = 0.053$; 95% CI: 0.98–16.9). A family history of febrile seizures was more likely to be associated with a normal EEG ($p = 0.01$; 95% CI: 0.04–0.60) and concluded whether abnormal EEG translates to future recurrences or epilepsy.

The present study was supported by **Jung Hye Byeon, et al., (2018)** conducted a descriptive study on the prevalence, incidence, and recurrence rates of febrile seizures in Korean.The overall prevalence of febrile seizures in more than 2 million children younger than 5 years was estimated (2009-2013) and reported. The average prevalence of febrile seizurein children younger than 5 years based on hospital visit rates in Korea was 6.92% (7.67% for boys and 6.12% for girls). The prevalence peaked in the second to third years of life, at 27.51%. The incidence of febrile seizures in children younger than 5 years (mean 4.5 years) was 5.49% (5.89% for boys and 5.06% for girls). The risk of first febrile seizures was highest in the second year of life. The overall recurrence rate was 13.04% (13.81% for boys and 12.09% for girls), and a third episode of febrile seizures occurred in 3.35% and concluded patients with three episodes of FS need to be monitored carefully.

The second objective of the study was to correlate the EEG positivity and febrile seizures among children with febrile seizures at Paediatric ward, GRH, Madurai.

Regarding age of children with febrile seizures, majority 92 had positive EEG report and the mean score was 3.04 with standard deviation 1.26. Whereas 8 had negative EEG report and the mean score was 2.13 with standard deviation 0.99. Student independent “t" test was to find out difference between EEG positivity with their age, the calculated “t” value 1.99 at 0.05 level and r = 0.32 and it is fairly correlated. Younger age children were having more positivity.

With the aspect of treatment for previous illness, majority 92 had positive EEG report and the mean score was 3.12 with standard deviation 0.99. Whereas 8 had negative EEG report and the mean score was 1.85 with standard deviation 0.60.Student independent “t” test was to find out difference between EEG positivity with the base line variables (Treatment for previous illness) the calculated “t” value 5.37 at 0.001 leveland r = 0.47 and it is moderately correlated. Positive children were having more number of times having treatment.

With regards to how often suffered respiratory infection, majority 92 had positive EEG report and the mean score was 4.12 with standard deviation 2.58. Whereas 8 had negative EEG report and the mean score was 2.22 with standard deviation 1.31.Student independent “t” test was to find out difference between EEG positivity with their base line variables (how often suffered respiratory infection) the calculated “t” value 3.57 at 0.001 level and r = 0.44 and it is moderately correlated. Positive children were having more number of times having respiratory infection.

Regarding frequency of febrile seizures, majority 92 had positive EEG report and the mean score was 5.12 with standard deviation 2.58. Whereas 8 had negative

EEG report and the mean score was 2.76 with standard deviation 1.38.Student independent " t" test was to find out difference between EEG positivity with their base line variables (frequency of febrile seizures) the calculated t value 4.26 at 0.001 level and r = 0.35, it is fairly correlated. Positive children were having more number of times having febrile seizures.

In aspect of Temperature, majority 92 had positive EEG report and the mean score was 104.21 with standard deviation 0.65. Whereas 8 had negative EEG report and the mean score was 103.12 with standard deviation 1.12.Student independent "t" test was to find out difference between EEG positivity with their base line variables (temperature) the calculated "t" value 4.19 at 0.001 level and r = 0.49 and it is fairly correlated. Positive children were having high temperature.

Regarding duration of febrile seizures, majority 92 had positive EEG report and the mean score was 7.50 with standard deviation 1.13. Whereas 8 had negative EEG positivity and the mean score was 3.50 with standard deviation 0.53.Student independent "t" test was to find out difference between EEG positivity with their base line variables (duration of febrile seizures) the calculated "t" value 8.76 at 0.001 level and r =0.55 and it is fairly correlated. Positive children were having more duration of febrile seizures.

While comparing the correlation between EEG positivity and febrile seizure to age, younger children (t = 1.99, p = 0.05, r = 0.32), had more number of times take treatment for previous illness (t = 5.37, r = 0.47) and more number of times suffered with respiratory infection (t = 5.37, r = 0.44) and children frequently had febrile seizures (t = 4.26, r = 0.35) with high temperature (t = 4.19, r = 0.49) and had more duration of time with febrile seizures (r=8.76, p=0.001, r=0.55) at 0.001 level.

This present study was supported by **Avi Shimony, et.al., (2008)** conducted retrospective study on febrile seizures are associated with different features in Bedouin and Jewish children, 374 children, 3 months to 7 years Febrile convulsions were diagnosed before the age of 2 in 75% and 81.4% of the Jewish and Bedouin children, respectively. Simple seizure was found among 80.4% and 72.2% of the Jewish and Bedouin groups, respectively. Complex seizures was found among 19.6% and 28.8% of the Jewish and Bedouin groups, respectively. 18.4% of the Jews and 17.8% of the Bedouin experienced more than one febrile convulsion. The most common diagnosis between the two groups by the time of the febrile seizures was otitis media however pneumonia was diagnosed in 15% of the Bedouins and only 3.8% of the Jews ($p < 0.005$). Then again 19.1% of the Jewish population was found to suffer from upper respiratory tract infections, as opposed to 9.7% of the Bedouin ($p < 0.05$). The two groups were similar in some aspects (gender, age and type of seizures) nevertheless there were differences concerning the source of fever. Further studies are needed to find whether these differences are related to demographic, genetic or other factors.

The present study was supported by **Ali Delpisheh, (2014)** meta regression analysis was introduced to explore heterogeneity between 4599 children with febrile seizures including 2734 males and 1865 females included in Meta analysis.Prevalence of febrile seizures according to the age of children under 2 years and 2 to 6 years were 55.8% (95% CI: 50.4–61.2%) and 44.1% (95% CI: 38.8–62/2%) respectively.

Hence the stated hypothesis H_1 there is a statistically significant correlation between EEG positivity and febrile seizure among children with febrile seizures at paediatric ward, GRH, Madurai was accepted.

The third objective of the study was to associate the EEG positivity among children with febrile seizures at Paediatric ward, GRH, Madurai and their selected socio demographic variables and baseline variables.

In order to find out the association between EEG positivity among children with febrile seizures and their selected socio demographic variables. A chi-square analysis was done.

There was a significant association between EEG positivity and selected socio demographic variables such as age group between 1 to < 3 years ($\chi 2$=5.89), p= (0.05) at 0.05%. Other variables was not associated with EEG Positivity.

The association between the EEG positivity among children with febrile seizures and selected baseline variables. Chi-square reveals that, there was a significant association between EEG positivity and past history of febrile seizures ($\chi 2$=100.00), (p=0.001),treatment for previous illness ($\chi 2$=66.03), (p=0.001), how often suffered respiratory infection ($\chi 2$=1.63), (p=0.20), temperature ($\chi 2$=25.41), (p=0.001), type of febrile seizures (complex) ($\chi 2$=100.00), (p=0.001), duration of febrile seizures (more than 5 minutes) ($\chi 2$=100.00), (p=0.001), frequency of febrile seizures per day(more than 1 time) ($\chi 2$=100.00), (p=0.001). Other variables was not associated with EEG Positivity.

The present study was supported by **Khaled Amro MD, (2014)** conducted retrospective study to establish the infectious causes associated with the increase in temperature in patient with febrile convulsion admitted to the Prince Hashem Hospital and its association with the season. By consecutive sampling technique,88 patients included, Infectious diarrhea was the most common cause of fever (43%) followed by acute pharyngitis (36%) and bronchopneumonia (5%). Less common causes were; cellulitis, urinary tract infection and post-vaccination reactions in a small number of

cases. In our study, winter time is more commonly associated with infectious disease outbreaks of gastrointestinal and respiratory infections (42%) followed by summer season (24%) and concluded that Gastrointestinal and upper respiratory tract infections were the most common causes of elevated temperature and subsequent febrile seizures in winter season.The epidemics of respiratory and diarrheal infections in winter season resulted in increasing the incidence of this disease.

The present study was supported by Shabbier Hussain, Sab Haider Tarar, Moin Ud Din Sabir, (2015) conducted prospective study to determine the demographic, clinical and aetiological profile of paediatric patients admitted with febrile seizures in a tertiary care hospital Kharian and Pakistan. Out of 100 children with consecutive sampling technique, 68 (68%) were male and 32 (32%) female. Mean age of the sample was 22.58 +12.50 months. Mean time interval between onset of fever and occurrence of seizures was 17.68 + 12.09hours. Overall, 78 (78%) patients had simple seizures. Only 30 (30%) patients had positive family history and 35 (35%) had recurrence of seizures during the same episode of illness. Acute respiratory infection was the commonest cause for febrile seizures in 72 (72%). Besides, 64 (64%) patients were malnourished, 77 (77%) had anaemia and 51 (51%) had raised total leukocyte count.

Hence the Hypotheses H_2there is a significant association between EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai and their selected socio demographic variables and baseline variables was accepted.

Summary and Conclusion, Implications & Recommendations

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter presents the summary of the study and conclusion drawn, clarifies the limitation of the study, the implications and the recommendations, different areas like nursing practice, nursing education, nursing administration and nursing research deserve implication.

6.1 Summary of the study

The present study was a correlative study of EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai – 20.

Objectives of the study were

1. To assess the EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai.
2. To correlate the EEG positivity and febrile seizures among children with febrile seizures at paediatric ward, GRH, Madurai.
3. To associate the EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai and their selected socio demographic variables and baseline variables.

The following hypotheses were tested at 0.05

H_1 - There is a statistically significant correlation between EEG positivity and febrile seizures among children with febrile seizures at paediatric ward, GRH, Madurai.

H_2 - There is a significant association between EEG positivity among children with febrile seizures at paediatric ward, GRH, Madurai and their selected socio demographic variables and baseline variables.

The study assumptions were

1. Children with or without febrile seizure may have negative result (Normal).
2. Children may never have seizure and do not have epilepsy, have abnormal patterns of electrical activity in the brain (Abnormal).

The study was conducted in Pediatric ward at Government Rajaji Hospital, Madurai. The conceptual framework of this study was based on Modified Health Belief model By Becker, Drachman RH and Dircht TP (1974). Quantitativeevaluative approach–Non experimental (Descriptive) research design was adopted. The research variable was correlation of EEG positivity and febrile seizure among children with febrile seizures. Non probability consecutive sampling technique was used to select 100 samples by picking up the available samples who fulfill the inclusion criteria during the period of data collection.

A structured interview and survey tool was used to assess correlation of EEG positivity among febrile seizures children at GRH.A pilot study was conducted on 5of the non study subjects at GRH, Madurai to find out the feasibility and practicability. The main study was conducted from 4.6.18 to13.7.18.Data gathered was analysed by using both descriptive and inferential statistics.

The tool used in this study consists of two sections

Section I

- Socio demographic variables

Section II

- Baseline variables

Section III

- Assessment of EEG Positivity

6.2 Major findings of the study were

- According to the age, majority of the subjects 44 (44%) belongs to the age group between 1 to < 3 years.
- Regarding gender**,** majority of the subjects 62 (62%) were male children.
- Considering the birth order, majority of the subjects 70 (73%) were first child.
- Based on the religion, majority of the subjects 95 (95%) belongs to Hindu.
- With respect of the type of family, majority of the subjects 69 (69%) were from nuclear family.
- While discussing the area of residence, majority of the subjects 66 (66%) were from rural area.
- While stating the family income per month, majority of the subjects 88 (88%) were earned more than ` 6000.
- Based on the education status of the father, majority of the subjects 47 (47%) studied upto primary education.
- With view of the educational status of mother, majority of the subjects 44 (44%) studied upto primary education.
- Regarding maternal habits, majority of the subjects (98%) had no habits of alcoholism and smoking.

Discussion of baseline variables

- ❖ While identifying the past history of febrile seizures, majority of the subjects 92 (92%) had no past history of febrile seizures.
- ❖ While mentioning the treatment for previous illness, majority of the subjects 88 (88%) were taken treatment 2 times.
- ❖ Based on suffering respiratory infection, majority of the subjects 96 (96%) were suffered respiratory infection.

- While denoting how often suffering respiratory infection, majority of the subjects 43 (43%) were suffered 2 times.
- Considering family history of febrile seizures, majority of the subjects 83 (83%) had no family history of febrile seizures.
- While stating family history of epilepsy, majority of the subjects 93 (93%) had no family history of epilepsy.
- Regarding febrile seizure after immunization, majority of the subjects 98 (98%) had no history of febrile seizures.
- With view of temperature in children with febrile seizures, majority of the subjects 96 (96%) had 103^0F.
- Regarding type of febrile seizure, majority of the subjects 92 (92%) had complex febrile seizure.
- While depicting duration of febrile seizure, majority of the subjects 92 (92%) had more than 5 minutes.
- Based on frequency of febrile seizure per day, majority of the subjects 59 (59%) were occurring 2 times.
- With respect of maintenance of personal hygiene in febrile seizures children, majority of the subjects 83 (83%) had adequate of personal hygiene.

While assessing EEG report among children with febrile seizures, majority of the subjects 92 (92%) had positive EEG report and 8 (8%) had negative EEG report.

Based on the correlation between EEG positivity and febrile seizures, there is a positive correlation between EEG positivity and febrile seizures, with younger children (t=1.99, p=0.05, r=0.32), had more number of times take treatment for previous illness (t=5.37, r=0.47) and more number of times suffered with respiratory infection (t=5.37, r=0.44) and children frequently had febrile seizures (t=4.26, r =

0.35) with high temperature (t=4.19, r=0.49) and had more duration of time with febrile seizure (r=8.76, p=0.001, r=0.55) at 0.001 level.

Chi-square reveals that, there was a significant association between EEG positivity among children with febrile seizures and selected socio demographic variable and children with age group between 1 to < 3 years (χ2=5.89), p=(0.05) at 0.05% level.

Chi-square reveals that, there was a significant association between EEG positivity among children with febrile seizures and baseline variable and past history of febrile seizures (χ2=100.00), (p=0.001), treatment for previous illness (χ2=66.03), (p=0.001), how often suffered respiratory infection (χ2=1.63), (p=0.20), temperature (χ2=25.41), (p=0.001), type of febrile seizures (complex) (χ2=100.00), (p=0.001), duration of febrile seizures (more than 5 minutes) (χ2=100.00), (p=0.001), frequency of febrile seizures per day (more than 1 time) (χ2=100.00), (p=0.001).

6.3 Conclusion

The result revealed that there was a significant correlation between EEG positivity and febrile seizures, according to age, younger children (t=1.99, p=0.05, r=0.32), had more number of times take treatment for previous illness (t=5.37, r=0.47) and more number of times suffered with respiratory infection (t=5.37, r=0.44) and children frequently had febrile seizures (t=4.26, r=0.35), with high temperature (t=4.19, r=0.49) and had more duration of time with febrile seizures (r=8.76, p=0.001, r=0.55) at 0.001 level which was confirmed by Pearson correlation coefficient test. Most of the febrile seizures children had a positive result and had abnormal patterns of electrical activity in the brain attended in paediatric ward. This study statistically

proved that there is a significant correlation between EEG positivity among children with febrile seizures at paediatric ward, Government Rajaji Hospital, Madurai.

6.4 Implication of the study

The investigator had drawn several implications from this study for various areas such as nursing practice, nursing education, nursing administration and nursing research.

Implication for nursing practice

- The study findings will create awareness among nurses about the correlation between EEG positivity and fever among children.
- The nurses can learn and practice to take EEG and also interpret the EEG findings.

Implication for nursing education

- Nursing educator educate the student nurse about the importance of fever management is essential to reduce febrile seizures.
- Nursing educator create the awareness to the students about the problems faced by the children due to un cared fever management.
- Nurse educator motivates the students to practice how to take EEG and also encourage the students to find out the EEG interpretation.

Implication for nursing research

This study can be a baseline for future studies to build upon and motivate.

- A study can be done with large samples and also for long duration.
- A study can be done with other disease associate with febrile seizuresand EEG positivity andcan be analyzed in the prevention of febrile seizures.
- Research is also needed to determine the impact of febrile seizureson children’s health outcome.

Implication for nursing administration

Administrator may pay special attention to student nurse to educate about the importance to control of fever among children.

- Administrator can encourage the student nurse to assess the correlation of EEG positivity and febrile seizures children.
- Nursing administrator can formulate protocols to prevent febrile seizures among children in paediatric OPD and ward.
- In service education programme can be conducted to disseminate the research findings for better practice among Nurses.

6.5 Recommendations

- A similar study can be replicated with larger sample for better generalization
- A comparative study can be done between EEG positivity and any other medical investigations among febrile seizures children to correlate relationship between the diagnostic evaluations.

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APPENDIX – I

ETHICAL COMMITTEE APPROVAL TO CONDUCT THE STUDY

MADURAI MEDICAL COLLEGE
MADURAI, TAMILNADU, INDIA -625 020
(Affiliated to The Tamilnadu Dr.MGR Medical University, Chennai, Tamil Nadu)

ETHICS COMMITTEE CERTIFICATE

Name of the Candidate	:	C.Nagajothi
Course	:	M.Sc., in Child Health Nursing
Period of Study	:	2016-2018
College	:	MADURAI MEDICAL COLLEGE
Research Topic	:	A Correlative study of EEG positivity among children with Febrile seizures at pediatric ward, Govt. Rajaji Hospital, Madurai
Ethical Committee as on	:	16.05.2018

The Ethics Committee, Madurai Medical College has decided to inform that your Research proposal is accepted.

Member Secretary Chairman Dean / Convenor

Prof Dr V Nagaraajan
M.D., MNAMS, D.M., Dsc.,(Neuro), Dsc (Hon)
CHAIRMAN
IEC - Madurai Medical College
Madurai

DEAN
Madurai Medical College
Madurai-20

16 MAY 2018

Appendices

APPENDIX – II

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

From

C. Nagajothi

M.Sc (N) II year student

College of Nursing

Madurai Medical College

Madurai – 20

To

The Director I/c

Institute of Child Health and Research Centre

Government Rajaji Hospital

Madurai

Through the proper channel,

Respected Sir,

Sub: College of Nursing, Madurai Medical College, Madurai – M.Sc (N) II year Child Health Nursing Student – Permission for conducting Pilot study and Main study from 21st May onwards in Pediatric Ward at GRH, Madurai request – regarding.

.....

As per the Indian Nursing Council and The Tamil Nadu Dr.M.G.R Medical University curriculum requirement of M.Sc Nursing candidates are required to conduct a dissertation study for the partial fulfillment of the course in their respective departments.

I wish to conduct a study topic **"A Correlative Study Of EEG Positivity Among Children With Febrile Seizure At Paediatric Ward, Government Rajaji Hospital, Madurai".** I assure that I will not interfere with the routine activities of the department.

Hence, I kindly request you to consider my requisition and permit me to conduct the study in this setting.

Thanking you,

Place: Madurai

Date: 18.05.2018

Yours Obediently

C. Nagajothi

(C.Nagajothi)

Forwarded

S.P

18/5/18

Study May be conducted

APPENDIX – III

CERTIFICATION OF VALIDATION

This is to certify that tool

SECTION A – Sociodemographic Date

SECTION B – Clinical Variables

Prepared for data collection by Mrs.C.Nagajothi, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai - 20, who has undertaken the study field on thesis entitled **" A Correlative Study Of EEG Positivity Among Children With Febrile Seizure At Paediatric Ward, Government Rajaji Hospital Madurai"** has been validated by me.

Signature of the Expert

NAME:

DESIGNATION:

ADDRESS:

DIRECTOR I/C
INSTITUTE OF CHILD HEALTH &
RESEARCH CENTRE
GOVT. RAJAJI HOSPITAL
MADURAI-625020.

Content Validity Certificate

This is to certify that tool

SECTION A – Sociodemographic Date

SECTION B – Clinical Variables

Prepared for data collection by Mrs.C.Nagajothi, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai - 20, who has undertaken the study field on thesis entitled **" A Correlative Study Of EEG Positivity Among Children With Febrile Seizure At Paediatric Ward, Government Rajaji Hospital Madurai"** has been validated by me.

Signature of the Expert

NAME: Dr. M.S. RAJARAJESWARAN MD DCH.

DESIGNATION:

ADDRESS:

Professor of Paediatrics
Institute of Child Health &
Research Centre
Govt. Rajaji Hospital, Madurai

Content Validity Certificate

This is to certify that tool

SECTION A – Sociodemographic Date

SECTION B – Clinical Variables

Prepared for data collection by Mrs.C.Nagajothi, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai - 20, who has undertaken the study field on thesis entitled **" A Correlative Study Of EEG Positivity Among Children With Febrile Seizure At Paediatric Ward, Government Rajaji Hospital Madurai"** has been validated by me.

22/05/18

Signature of the Expert

PRINCIPAL
MADURAI APOLLO COLLEGE OF NURSING
ELIYARPATHI VILLAGE
MADURAI SOUTH TALUK, MADURAI-22.

NAME: Dr. A. HELEN M PERDITA.

DESIGNATION: Principal.

ADDRESS: Apollo College of Nursing.
Eliyarpathy.
Madurai - 625022.

Content Validity Certificate

This is to certify that the tool

SECTION-A-Socio demographic data

SECTION-B-Baseline Variables

Prepared for data collection by Mrs.C.Nagajothi,II-Year M.Sc.,(N) student, college of nursing, Madurai Medical College, Madurai 20 who has undertaken the study field on thesis entitled "A Correlative Study of EEG Positivity Among Children with Febrile Seizure At Paediatric Ward,GRH, Madurai-20 has been valid by me.

N. Jessy
Signature of the Expert

Name: Prof. Dr. N. Jessie

Designation: Professor Cum HOD,
CSI Jeyaraj Annapackiam
College of Nursing,
Madurai - 4.

Date:

Content Validity Certificate

This is to certify that tool

SECTION A – Sociodemographic Date

SECTION B – Clinical Variables

Prepared for data collection by Mrs.C.Nagajothi, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai - 20, who has undertaken the study field on thesis entitled **" A Correlative Study Of EEG Positivity Among Children With Febrile Seizure At Paediatric Ward, Government Rajaji Hospital Madurai"** has been validated by me.

R. Jothi Lakshmi
Signature of the Expert

NAME: R. JOTHILAKSHMI

DESIGNATION: Professor

ADDRESS: Sacred Heart Nursing college, madurai - 20.

R. JOTHI LAKSHMI, M.Sc.,(N)Ph.D
Associate Professor
Sacred Heart Nursing College
MADURAI - 20

APPENDIX - IV

INFORMED CONSENT FORM

Name: Date:

Here I am acknowledge that information regarding the project study topic was explain to me and the positive reason was pointed out. I am voluntarily willing to participate in the study. At any time I am free to exclude from the study and promised that my all personal information should be kept in confidential.

Signature of the participants

ஒப்புதல் அறிக்கை

பெயர் : நாள்:

எனக்கு இந்த செவிலிய ஆய்வினை பற்றிய முழு விவரம் விளக்கமாக எடுத்துரைக்கப்பட்டது. இந்த ஆய்வில் பங்கு கொள்வதில் உள்ள நன்மைகள் தீமைகள் பற்றி முழுமையாக புரிந்து கொண்டேன். இவ் ஆய்வில் இருந்து எந்த சமயத்திலும் விலகிக்கொள்ள முழு அனுமதி வழங்கப்பட்டுள்ளது.என்னுடைய சிகிச்சை ஆவணங்களை பார்வையிட்டு அதில் உள்ள விவரங்களை ஆய்வில் பயன்படுத்திக்கொள்ள முழு அனுமதி அளிக்கிறேன். என்னுடைய பெயர் மற்றும் அடையாளங்களை ரகசியமாக வைதுக்கொள்ளப்படும் என்றும் எனக்கு உறுதியளிக்கப்பட்டது.

இப்படிக்கு,

APPENDIX – V

Research Tool – English

SECTION A – SOCIO DEMOGRAPHIC VARIABLES

1. Age in years ☐
   a) 6 months to < 1year
   b) 1 to < 3 years
   c) 3 to 5 years
2. Gender ☐
   a) Male
   b) Female
3. Birth order of the child ☐
   a) First child
   b) Second child
   c) Third child
   d) > Third
4. Religion ☐
   a) Hindu
   b) Christian
   c) Muslim
   d) Others
5. Type of family ☐
   a) Nuclear family
   b) Joint family
   c) Extended Family
6. Residence ☐
   a) Rural
   b) Urban

7. Income of the family per month

   a) Less than Rs. 2000

   b) Rs.2001-Rs.4000

   c) Rs.4001-Rs.6000

   d) Rs 6001 and above

8. Educational status of the father

   a) No formal Education

   b) Primary Education

   c) Secondary Education

   d) Graduate

9. Educational status of mother

   a) No formal Education

   b) Primary Education

   c) Secondary Education

   d) Graduate

10. Maternal habits

   a) Use of alcohol

   b) Smoking

   c) No

SECTION B–BASELINE VARIABLES

1. Did you have past history of febrile seizures?
   a) Yes ☐
   b) No
2. Did you take treatment for previous illness?
   a) 1 time ☐
   b) 2 time
   c) More than 2 times
   d) No
3. Did you suffer respiratory infection? ☐
   a) Yes
   b) No
4. How often suffered respiratory infection? ☐
   a) 1 time
   b) 2 times
   c) > 2 Times
   d) No
5. Did you have family history of febrile seizures? ☐
   a) Yes
   b) No
6. Did you have family history of Epilepsy? ☐
   a) Yes
   b) No
7. Did you have febrile seizures after immunization?
   a) Yes ☐
   b) No

8. Temperature ☐
    a) 101^0 F
    b) 102^0 F
    c) Above – 103^0 F
9. Type of febrile seizures ☐
    a) Simple
    b) Complex
10. Duration of febrile seizures ☐
    a) Less than 5 Minutes
    b) > 5 minutes
11. Frequency of febrile seizure per day ☐
    a) 1 time
    b) 2 time
    c) 3 time
    d) More than 3 time
12. Maintenance of personal hygiene ☐
    a) Adequate
    b) Inadequate
13. Electroencephalogram report ☐
    a) Positive
    b) Negative

APPENDIX – VI

RESEARCH TOOL - TAMIL

பகுதி -அ

கீழ்க்கண்டவற்றில் பொருத்தமானவற்றை டிக்(/)மார்க் செய்து குறிப்பிடவும்.

1) குழந்தையின் வயது

அ) 6 மாதங்கள்- 1 வயதுக்குள்

ஆ) 1 - 3 வயதுக்குள்

இ) 4 - 5 வயது வனர

2) குழந்தையின் பாலினம்

அ) ஆண்

ஆ) பெண்

3) எத்தனையாவது குழந்தை

அ) முதலாவது

ஆ) இரண்டாவது

இ) மூன்று

ஈ) மூன்றுக்கும் அதிகமான

4) மதம்

அ) இந்து

ஆ) முஸ்லீம்

இ) கிறிஸ்தவர்

ஈ) பிரமதத்தவர்

5) குடும்பவனக

அ) தனிக் குடும்பம்

ஆ) கூட்டுக் குடும்பம்

இ) நீடிக்கப்பட்ட குடும்பம்

ஈ) பிரிற்த குடும்பம்

6) வசிப்பிடம்

அ) நகரம்

ஆ) கிராமம்

7) மாத வருமானம்

அ) ரூ 2000 க்கும் குறைவாக

ஆ) ரூ 2001-4000

இ) ரூ 4001-6000

ஈ) 6001 க்கும் மேல்

8) தந்தையின் கல்வித் தகுதி

அ) முறையான கல்வி இல்லை

ஆ) ஆரம்பக்கல்வி

இ) நடுநிலைக்கல்வி

ஈ) பட்டதாரி

9) தாயின் கல்வி தகுதி

அ) முறையான கல்வி இல்லை

ஆ) ஆரம்பக்கல்வி

இ) நடுநிலைக்கல்வி

ஈ) பட்டதாரி

10) தாய்வழி பழக்கம்

அ) மதுப்பழக்கம்

ஆ) புகைபிடித்தல்

இ) இல்லை

பகுதி-ஆ

(அடிப்படைகாரணிகள்)

1) கடந்த காலத்தில் காய்ச்சல் வலிப்பு இருந்ததா ?

அ) ஆம்

ஆ) இல்லை

2) முந்தைய நோய்க்கு சிகிச்சை எடுத்துக் கொண்டீர்களா?

அ) 1 முறை

ஆ) 2 முறை

இ) 2 முறைக்கு மேல்

ஈ) இல்லை

3) நீங்கள் சுவாச தொற்று நோயினால் பதிக்கப்பட்டுள்ளீர்களா

அ) ஆம்

ஆ) இல்லை

4) எத்தனை முறை சுவாச தொற்று நோயினால் பாதிக்கப்பட்டுள்ளீர்கள்?

அ) 1 முறை

ஆ) 2 முறை

இ) 2 முறைக்கு மேல்

ஈ) இல்லை

5) குடும்பத்தில் யாருக்கேனும் காய்ச்சல் வலிப்பு வரலாறு உள்ளதா?

அ) ஆம்

ஆ) இல்லை

6) குடும்பத்தில் யாருக்கேனும் வலிப்பு வரலாறு உள்ளதா?

அ) ஆம்

ஆ) இல்லை

7) தடுப்பூசிக்கு பிறகு காய்ச்சல் வலிப்பு வரலாறு உள்ளதா?

அ) ஆம்

ஆ) இல்லை

8) வெப்பநிலை

அ) 101° F

ஆ) 102° F

இ) 103° F மேல்

9) காய்ச்சல் வலிப்பு வகைகள்

அ) மூளையின் ஒரு பகுதி பாதிக்கப்பட்ட வலிப்புத்தாக்கங்கள்

ஆ) மூளையின் இரு புறமும் பாதிக்கப்பட்ட வலிப்புத்தாக்கங்கள்

10) காய்ச்சல் வலிப்பு காலம்

அ) 5 நிமிடங்களுக்கு கீழ்

ஆ) 5 நிமிடங்களுக்கு மேல்

11) நாளொன்றுக்கு எத்தனை முறை வலிப்பு

அ) 1 முறை

ஆ) 2 முறை

இ) 3 முறை

ஈ) 3 முறைக்கு மேல்

12) தனிப்பட்ட சுகாதார பராமரிப்பு

அ) போதிய அளவு

ஆ) போதாது

13) எலக்ட்ரோ என் செபலோகிராம் அறிக்கை

அ) நேர்மறை அறிக்கை

ஆ) எதிர்மறை அறிக்கை

APPENDIX – VII

English Editing Certificate

TO WHOM SOVER IT MAY CONCERN

This to certify that the dissertation "A correlative study of EEG positivity among children with Febrile Seizures at paediatric ward, GRH, Madurai." Done by Mrs.C.Nagajothi, II year M.Sc (N) Student, College of Nursing, Maduai Medical College, Madurai – 20. Has been edited for English language appropriateness.

Vinnie.R 22/6/18

Signature

CORPORATION ELANGO HR. SEC SCHOOL Date 22/6/18

Name: R. VINNIE

Designation: B.T. Asst

Date: 22.06.18

CORPORATION ELANGO HR SEC SCHOOL Date 22/6/18

APPENDIX – VIII

Tamil Editing Certificate

TO WHOM SOVER IT MAY CONCERN

This to certify that the dissertation "A correlative study of EEG positivity among children with Febrile Seizures at paediatric ward, GRH, Madurai." Done by Mrs.C.Nagajothi, II year M.Sc (N) Student, College of Nursing, Maduai Medical College, Madurai – 20. Has been edited for Tamil language appropriateness.

K. Sowndra
Signature

CORPORATION ELANGO HR SEC SCHOOL
Date 22/6/18
PUDHUNAGAR MADURAI

Name: K. SOWNDRAM.

Designation: P.G. Assistant. (Tamil)

Date: 22.6.2018

CORPORATION ELANGO HR SEC SCHOOL
Date 22/6/18
PUDHUNAGAR MADURAI

APPENDIX – IX

PHOTOGRAPHS


Kurunji
SILKS
SILKS & READYMADES
3/127, Melur Main Road,
Y.OTHAKADAI, MADURAI - 625 102.